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76TH CONGRESS }  
1st Session

SENATE

{ DOCUMENT  
No. 39

EXPORT TRADE IN AND BYPRODUCTS  
USES OF TOBACCO

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LETTER

FROM THE

SECRETARY OF AGRICULTURE

TRANSMITTING

IN RESPONSE TO SENATE RESOLUTION NO. 291  
(75TH CONGRESS) A REPORT PERTAINING TO  
THE EXPORT TRADE IN AND BYPRODUCTS  
USES OF TOBACCO



U.S. Dept. of Agriculture

MARCH 20 (legislative day, MARCH 16), 1939.—Referred to  
the Committee on Agriculture and Forestry and ordered  
to be printed with illustrations

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UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1939



## LETTER OF TRANSMITTAL

DEPARTMENT OF AGRICULTURE,  
*Washington, March 17, 1939.*

The PRESIDENT OF THE SENATE.

SIR: Pursuant to the request made upon me in Senate Resolution No. 291, adopted by the Seventy-fifth Congress, I am transmitting herewith a report pertaining to the export trade in and byproducts uses of tobacco.

This report analyzes the marketing situation in the various countries to which American tobacco is exported in important quantities, not only with respect to the consuming habits of the people and their domestic production and exports of tobacco competing with types grown in the United States, but also with respect to the various forms of governmental policy of action which affect the imports of American tobacco.

Over a long period the tastes and preferences of tobacco users have been shifting from tobacco products in which certain types of tobacco such as fire-cured and dark air-cured are used, to other products in which milder types such as flue-cured and Burley are used. These changes have been world-wide in their scope, and without reference to any other factors have had an important bearing upon the domestic and foreign demand for the different types of tobacco. The result has been a steady decline in the domestic consumption and exports of fire-cured and dark air-cured tobaccos and a corresponding increase in the consumption and exports of flue-cured tobacco produced in this and other countries.

The effect of these trends has been heightened in more recent years by increasing production of analogous types of tobacco in foreign countries. For example, such export demand as continues for the fire-cured and dark air-cured types has been adversely affected by the production of those types in foreign countries. Similar competition has developed also with respect to flue-cured tobacco.

A third factor of great importance which has developed in recent years is the tendency of foreign governments to impose restrictions on trade in particular commodities or with respect to particular countries of supply through the application of import quotas, foreign exchange control measures, and other impediments to international trade.

Careful study was made of the possibilities of stimulating our domestic exports of tobacco by means of subsidies. It was found that a universal application of the export subsidy principle could not be made because in certain countries sharply retaliatory measures would immediately be invoked which might bring about an actual loss in trade; and that a selective application of the principle might create an appearance of discrimination with possible unfortunate results. Furthermore, the types of tobacco which have suffered the greatest losses in

the export market are those used in products which are declining in popularity. Price of the raw material is not a controlling factor in the situation, and an export subsidy would probably be ineffective.

Substantial progress has been made in promoting better conditions for the export of tobacco through the reciprocal trade agreements program, and this approach to the problem is believed to offer the greatest prospect of accomplishing the objects contemplated by the Senate resolution.

One section of the Senate resolution is directed to the utilization of low-grade tobacco in byproducts and calls upon the Secretary to conduct research into the possible extension of the byproducts field. This report, therefore, sets forth the byproducts uses of tobacco, the research that is now under way, and what may reasonably be expected to result from further research.

A detailed report covering the survey of research, authorized by the Agricultural Appropriation Act for the fiscal year ending June 30, 1939, will be submitted later.

Sincerely yours,

H. A. WALLACE,  
*Secretary.*

## LETTER OF SUBMITTAL

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UNITED STATES DEPARTMENT OF AGRICULTURE,  
BUREAU OF AGRICULTURAL ECONOMICS,  
Washington, D. C., February 20, 1939.

*Memorandum for the Secretary.*

Dear Mr. SECRETARY: Senate Resolution No. 291, adopted June 7 (calendar day, June 13) 1938, reads as follows:

*Resolved*, That the Secretary of Agriculture is requested (1) to make a thorough study and investigation, immediately, of foreign markets and the possibilities of increased exports for all grades of tobacco and tobacco products; (2) to formulate and give full consideration to a plan or plans for increasing such exports and enabling such exports to be made on a subsidized basis; (3) to make a thorough study and investigation of the use of byproducts of tobacco, and especially the use of nicotine as an insecticide and the cost of its manufacture, with a view to increasing the markets for such byproducts, and such investigation be made one of the first activities of the farm laboratories when established; and (4) to transmit to the Senate, at the earliest practicable date, the results of his study and investigation, together with his recommendations and the plan or plans formulated by him and estimates of the probable expense to the Government which would be involved.

The subject matter of this resolution has been given exhaustive study and a report is transmitted herewith. Its preparation has involved a survey of the marketing conditions, consumption habits, and trade barriers in the many countries to which our tobacco is exported, the special conditions affecting commerce in individual types of American tobacco, existing legislation which might be invoked to facilitate foreign sales, consideration of the favorable and unfavorable effects which might result from recourse to artificial stimulants to export trade in tobacco, and finally the preparation of the report has involved a broad summarization of the byproducts uses of tobacco and the scientific research by which those uses may be extended. Problems involved in the possible use of export subsidies were discussed with responsible leaders in the tobacco export trade and the opinions which they unanimously expressed are in agreement with the conclusions set forth in this report.

Those who participated in the preparation of this report are: Chas. E. Gage, chairman, and Bennett S. White, of the Bureau of Agricultural Economics; Leslie A. Wheeler and Harry Lee Franklin, of the Foreign Agricultural Service; Ernest G. Beinhart and Howard B. Boyd, of the Agricultural Adjustment Administration; James T. Jardine and Rhett Y. Winters, of the Office of Experiment Stations; W. W. Garner, of the Bureau of Plant Industry; Horace T. Herrick and Percy A. Wells, of Chemistry and Soils; and Louis N. Markwood, Bennet A. Porter, Ruric C. Roark, Delos L. Van Dine, and William H. White, of Entomology and Plant Quarantine.

In addition to the above, special reports of great value, bearing on the current situation for tobacco imports, were submitted by employees of the Foreign Agricultural Service stationed abroad—Paul G. Minneman at London, and J. Barnard Gibbs at Shanghai.

Sincerely yours,

H. R. TOLLEY, *Chief of Bureau.*





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## EXPORT TRADE IN AND BYPRODUCTS USES OF TOBACCO

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### SUMMARY

Two outstanding features have characterized the export trade in United States leaf tobacco during the post-war period. First, the general and gradual decline in exports of dark tobacco—particularly the fire-cured types, and, to a somewhat less extent, the dark air-cured types; and, second, the large increase registered in both volume and value of exports of American flue-cured tobacco during this period.

Several factors account for the decline in exports of American fire-cured and dark air-cured leaf. The chief ones were the expansion abroad in the production of the dark types accompanied by an increasing shift in consumption habits from products made from dark tobacco to those manufactured from light (flue-cured) tobacco. This heavy displacement of American dark tobacco in foreign markets (particularly in Europe) beginning in the early twenties, appears to represent a permanent, structural change in the trade and little, if anything, can be done to ameliorate this situation.

The favorable development of our export trade in flue-cured leaf tobacco has been in line with the universal increase in cigarette consumption and the shift toward cigarettes from other kinds of tobacco products. Although a large increase in British Empire production of flue-cured tobacco has taken place since 1919 under the stimulus of tariff preference, exports of American flue-cured leaf to the United Kingdom (our chief foreign market) have continued to increase, owing to the large gain in cigarette consumption there. Our proportionate share of the United Kingdom's total flue-cured leaf imports has declined, however, due to the increased imports of Empire flue-cured leaf.

In view of the circumstances summarized above it is not believed that a general program of export subsidies can be expected to operate to the advantage of the tobacco export trade of the United States. The main reasons for this belief may be summarized as follows:

In the first place, the more fundamental causes of the decline in exports of dark tobacco from the United States, notably the shift in consumer demand to cigarettes and the increased production of dark tobacco in certain foreign countries, cannot be overcome simply by reducing the cost of American tobacco to foreign consumers through governmental export subsidies.

In the second place, a large part of the world import trade in tobacco is handled by governmental tobacco monopolies, one of the main objectives of which is to encourage domestic tobacco production. In such cases a subsidy on tobacco exports from the United States might temporarily result in some increase in the share of American

tobacco included in the purchases of foreign tobacco by the government monopolies. But it could not be expected that the subsidy would operate to increase the total purchases by the monopolies in cases where the governments are attempting to encourage domestic production. The result of export subsidies on American tobacco under such circumstances might be, mainly, a transfer of funds from the Treasury of the United States to the treasuries of foreign countries without any corresponding increase in the volume of American tobacco exports. A similar result might be expected in a country like Germany, where the Government dictates the quantity of particular products which may be imported. In the German case, in particular, it is not believed that the price of American tobacco has been an important factor in the decline in imports into Germany and consequently a lowering of the price through a government export subsidy would not be likely in itself materially to increase the exports of American tobacco to the German market.

In the third place, there is reason to suppose that in certain countries retaliatory action in the form of countervailing duties or even of embargo on American tobacco might be taken in the event of the introduction by the United States of a general program of export subsidies. Such action, if it were taken, would not only nullify such effect as the subsidy might otherwise have in stimulating our tobacco exports but might have an adverse effect on the trade which already exists.

Finally, notice should be taken of the possibility of the adoption of a general export subsidy policy by the United States on tobacco leading to the adoption of a similar policy by other tobacco-exporting countries. At the present time it does not appear that export subsidies are widely used in the international trade in tobacco. But experience in other commodities, such as wheat, would seem to point to the conclusion that, if the United States started general export subsidies on tobacco, other tobacco-exporting countries would be likely to adopt similar measures to protect the position of their product in the world market.

The most promising field for promoting the export trade in tobacco appears to be that which can be reached through reciprocal trade agreements. Through such agreements eight countries have already given concessions on unmanufactured tobacco, and five on manufactured tobacco. These seem certain to have beneficial effects, and it is believed that the extension of this program offers the greatest possibility of protecting and improving our present position in the export trade.

Progress has been made in developing increased use of tobacco byproducts, and a program of research to further exploit this field will be inaugurated in one of the regional laboratories soon to be established. Byproducts uses of tobacco are of importance mainly as an outlet for tobacco offal and for low grades appearing on the market.

## GENERAL CONSIDERATIONS

### TYPES OF TOBACCO

Tobacco, more perhaps than any other product of the soil, is affected as to type, quality, and manufacturing characteristics by the conditions of soil and climate under which it is grown. The varieties,

cultural practices, and curing technique which in one environment may yield a tobacco particularly suited to cigarette purposes may in another environment result in tobacco of no commercial value. The production of tobacco for commerce therefore tends to become highly regionalized, and, in consequence, the tobaccos in international trade are associated with particular areas of production. Each type has its own unique characteristics and is suitable for use in certain classes of products. They are interchangeable with each other only within rather narrow limits.

The 26 types of tobacco produced in the United States are grouped into six classes as follows:

Flue-cured, used principally here and abroad in cigarettes, but also in smoking and chewing tobacco.

Fire-cured, used principally in snuff, and to a small extent in chewing and Italian type cigars, in the United States; used abroad largely for cigars, smoking, chewing, and snuff.

Light air-cured, used widely here in cigarettes and smoking, and also rather extensively in chewing; exports small compared with flue-cured and fire-cured.

Dark air-cured, used here mostly in chewing and in the manufacture of black-fat for export, and abroad in chewing, cigarette, and pipe smoking.

Cigar filler, cigar binder, and cigar wrapper used as the names indicate and also for scrap chewing. Little cigar tobacco is exported.

Of the above classes those which are important in the export trade are flue-cured, fire-cured, and dark air-cured. In the light air-cured group, exports of burley are of some importance and offer some hope of increasing. Maryland tobacco for three centuries has depended on foreign markets, but within the last decade this outlet has dwindled in importance and its place has largely been taken by increasing domestic consumption.

Many foreign tobaccos are comparable to American types and may be similarly classified. The most notable exception is the so-called Turkish, or oriental and semioriental, cigarette tobacco of southeastern Europe and the Near East.

#### FORMS OF TOBACCO CONSUMPTION

The general forms in which tobacco is consumed are much the same in all countries. They include cigars, cigarettes, pipe tobacco, chewing tobacco, and snuff. The similarity as between countries, however, is more in the form of product than in the content. Cigarettes of American manufacture represent a blend of flue-cured, burley, Maryland, and Turkish. In Great Britain cigarettes are made almost exclusively from flue-cured tobacco; in some countries the use of Turkish predominates; in Spain fire-cured is much used; while in France, Maryland and domestic or imported dark air-cured are used in cigarettes. In Italy and Austria cigars are made from fire-cured tobacco, whereas in this country sales of such cigars are limited to a dwindling number of immigrants from those countries or to such of their descendants as have acquired a similar preference. The types of tobacco used here for pipe smoking and chewing are not those customarily used in many European countries.

Although a similarity exists in the general forms of tobacco consumption in various parts of the world, great dissimilarity exists in the emphasis placed on different forms. In England cigarettes and pipe tobacco are most common; in some countries cigars are favored, while in one or two chewing and snuff together may occupy first place.

The complexities of international trade in tobacco are largely attributable to the great diversity in uses, preferences, and limitations upon production. The habits and tastes of tobacco users are persistent to such a degree that changes on a broad scale usually take place slowly, with the result that prior to the introduction of artificial measures of control the general features of international trade in tobacco were characterized by great stability. Manufacturers when free to do so continue to patronize those sources of supply which in the past have enabled them to please their customers. As is discussed elsewhere in this report, however, governmental measures affecting tobacco trade have increased in recent years through the operation of government monopolies, tariff barriers, import quotas, etc. Where this is true these factors, rather than voluntary changes in the preferences of users, exert a major influence on the source and type of imported tobacco.

In many countries, however, the purchase, manufacture, and sale of tobacco is a State monopoly. In these countries the necessity of catering to the tastes of customers is less compelling and substitute types of tobacco may be adopted with greater freedom. In numerous countries where no monopoly exists and where manufacturers formerly were free to exercise their own judgment as to sources of supply, the government now exercises great control over the industry.

With regard to imports of leaf tobacco, control often takes the form of restrictions upon the use of foreign exchange, by which means manufacturers may be required to use more domestic tobacco and to favor certain countries in placing orders for imported tobacco. In several such countries there is an increasing tendency to subordinate the needs of the tobacco industry to policies of state. These and other elements of change have had very pronounced effects on the quantities of tobacco exported from the United States; whereas the general shift from other forms of tobacco consumption to cigarette smoking might have affected the type of tobacco exported from the United States, governmental operations alluded to have greatly affected the total imports of all types combined. Thus, by enforcing the substitution of one imported type for another, control agencies are able to materially affect the direction and volume of flow of international trade. Manufacturing requirements, which in the past have been supplied from American tobacco, are being supplied to a substantial extent by tobacco produced in other countries.

The make-up of the tobacco trade of different countries is thus the outgrowth of the varying national preferences and tastes as to modes of consumption, modified in many instances by government control over the industry or some phase of it. It is reflected in the character of tobacco imported as to type, preferred grades, and source of supply.

## WORLD TRADE IN UNMANUFACTURED TOBACCO

Tobacco is produced and consumed in practically every country of the world and is one of the major items in international trade. Important changes have taken place in the relative standing of the principal exporting and importing countries during the past 25 to 30 years (table 1). The United States throughout most of its history has been the most important exporting country. In recent years British India, Italy, Japan, and Canada have increased in importance as exporters, while the export trade of certain other countries, particularly that of Netherland India, has decreased in the past 5 or 6 years as compared with the pre-war period and the 1920's. In the 5-year period 1909-13, Germany was the most important importing country, and retained first place on the average during the 1920's, although by a decreasing margin. Subsequently the United Kingdom replaced Germany as the largest importer of unmanufactured tobacco. Among the countries which have imported significantly smaller quantities of tobacco in recent years are Italy, France, and Canada.

TABLE 1.—*International trade in tobacco, average 1909-13, 1920-29, 1932-36, and annual 1937*

[In thousands of pounds]

Principal exporting or importing countries	Calendar year							
	Average 1909-13		Average 1920-29		Average 1932-36		1937 <sup>1</sup>	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
United States.....	381,127	52,768	514,342	73,045	422,512	60,552	434,796	78,380
Netherland India.....	161,265	8,118	160,554	6,520	116,860	4,496	<sup>2</sup> 81,252	<sup>2</sup> 3,153
Turkey.....			<sup>3</sup> 71,859	0	54,464	108	90,694	0
Greece.....	18,011	18	88,146	70	87,229	46	93,016	2
Brazil.....	60,320	596	72,151	3,059	62,568	1,398	80,774	( <sup>4</sup> )
Bulgaria.....	5,598	12	54,307	0	47,678	( <sup>5</sup> )	48,716	0
Philippine Islands.....	26,018	36	47,522	506	41,027	1,587	17,804	1,031
Cuba.....	37,743	0	36,059	0	29,612	0	( <sup>4</sup> )	0
British India <sup>6</sup> .....	20,054	775	36,469	10,524	35,065	12,178	51,204	14,734
Germany.....	1,062	168,435	738	208,560	372	193,553	1	205,498
United Kingdom.....	4,603	116,504	6,448	192,924	8,057	217,490	6,704	262,811
China.....	25,251	15,113	27,129	74,800	26,920	53,853	33,729	49,605
France.....	164	63,914	870	87,623	1,084	77,824	1,119	58,740
Netherlands.....	3,786	57,218	4,638	67,996	3,659	67,605	3,618	69,370
Spain.....	0	51,026	18	55,885	70	<sup>7</sup> 63,054	( <sup>4</sup> )	( <sup>4</sup> )
Belgium.....	33	22,094	274	43,124	342	44,531	304	38,719
Austria <sup>8</sup> .....	23,192	49,984	1,373	29,143	2,515	21,557	989	17,828
Canada.....	355	17,891	3,642	17,279	10,344	7,642	10,041	2,569
Italy.....	3,008	47,732	4,129	34,484	8,501	5,866	14,477	4,264
Japan.....	696	1,707	2,384	11,067	4,563	13,396	10,245	8,717

<sup>1</sup> Preliminary.

<sup>2</sup> Java and Madura only.

<sup>3</sup> 7-year average.

<sup>4</sup> Not available, December 1933.

<sup>5</sup> Less than 500 pounds.

<sup>6</sup> Sea trade 1909-22; land trade reported in value only for these years.

<sup>7</sup> 4-year average, 1932-35.

<sup>8</sup> Hungarian figures are combined with Austrian during pre-war period.

Compiled from original official sources. Tobacco comprises leaf, stems, and trimmings.

The various major divisions of the world now occupy approximately the following positions in international trade in tobacco: The United States produces much more tobacco than it consumes and exports large quantities to other countries of the world, particularly to Europe and the Orient (especially China). Continental Europe, as a whole, is a deficit area with respect to tobacco production, but the position of individual countries varies markedly. The United Kingdom, Ireland, the Netherlands, Norway, Sweden, Denmark, former Austria, Portugal, and the Baltic States produce little or no tobacco. Germany, France, Spain, Belgium, Czechoslovakia, and Poland grow substantial quantities, but also find it necessary to import large quantities. Production in Italy, Yugoslavia, and Rumania is approximately equal to consumption. Greece, Turkey, Bulgaria, and Hungary produce a considerable surplus for export to other areas. The Orient is largely self-sufficient, both imports and exports being comparatively small relative to domestic production and consumption. The same is true of Africa and South America, although Algeria, Nyasaland, Rhodesia, and the Union of South Africa export some tobacco, and Brazil is an exporter of considerable importance.

It is apparent from table 1 that many countries which produce a surplus of tobacco for export are also extensive importers. This arises from the great diversity in types of tobacco, tastes, and preferences of consumers as to the form in which tobacco is used, and the limitations upon production of specific types imposed by local conditions of soil and climate. Countries of southeastern Europe, for example, produce tobacco for export, but the types customarily grown and for which the environment is most suitable are known as oriental or semioriental tobacco, useful primarily in the manufacture of cigarettes but entirely unsuited to the manufacture of other products for which there is a strong local demand. In some of these countries, for example, there was for many years an important demand for cigars manufactured from fire-cured tobacco produced in the United States, whereas in our own country this use of fire-cured tobacco is relatively unimportant.

#### PRINCIPAL FACTORS AFFECTING THE FOREIGN CONSUMPTION OF AMERICAN TOBACCO

The principal factors which affect the consumption of American leaf tobacco in foreign countries fall into two groups: (a) Non-governmental, or those arising from changes in consumption habits, comparative prices, and quality of competing types of tobacco, and (b) governmental, or those resulting from monopoly controls, import quotas and foreign exchange control, barter and clearing agreements, import duties and preferential tariffs, taxation of tobacco products, and subsidized domestic leaf production.



## (a) NONGOVERNMENTAL FACTORS

## CHANGES IN CONSUMPTION HABITS

Throughout western Europe generally there has been a shift from products such as chewing tobacco, snuff, and, to some extent, pipe tobaccos, toward cigarettes. An indication of the extent of this shift from chewing tobacco and snuff to cigarettes may be seen from table 2.

TABLE 2.—*Estimated consumption of tobacco products in Europe, 1913 and 1920-35*<sup>1</sup>

[In thousands of pounds]

Year	Cigars	Ciga- rettes	Smoking mixtures	Chewing tobacco	Snuff	Total
1913 <sup>2</sup> .....	175,087	115,956	387,613	34,660	49,312	762,628
1920 <sup>2</sup> .....	118,684	233,108	365,465	31,221	36,325	784,803
1921 <sup>2</sup> .....	113,382	248,422	390,198	30,079	38,509	820,590
1922 <sup>2</sup> .....	92,951	263,029	402,287	27,827	37,247	823,341
1923.....	93,162	270,392	428,071	26,166	34,077	851,868
1924.....	114,275	298,186	423,049	26,429	33,583	895,522
1925.....	116,422	323,531	416,004	26,221	34,237	916,415
1926.....	117,069	322,564	428,234	25,642	31,969	925,478
1927.....	124,324	345,440	442,209	24,808	31,372	968,153
1928.....	130,689	368,022	444,181	22,838	30,687	996,417
1929.....	131,317	390,781	437,657	22,334	29,821	1,011,910
1930.....	135,067	401,296	417,597	21,341	29,564	1,004,865
1931.....	120,685	380,116	403,075	19,851	28,162	951,889
1932.....	105,291	385,373	393,745	18,504	27,334	930,247
1933.....	113,305	382,748	391,798	17,373	26,328	931,552
1934.....	126,330	390,869	389,337	18,103	25,576	950,215
1935.....	144,006	396,515	383,721	17,993	24,781	967,016

<sup>1</sup> Total consumption of 20 countries for which data are listed separately. In this table the quantity of tobacco products sold is used as the measure of consumption. It is believed that such sales approximate consumption when all the European countries are considered as a unit.

<sup>2</sup> Includes estimates for 6 countries in 1913 and 1920, 4 in 1921, and 2 in 1922.

Compiled from Tech. Bull. No. 578, Consumption and Production of Tobacco in Europe (p. 9), by J. B. Hutson.

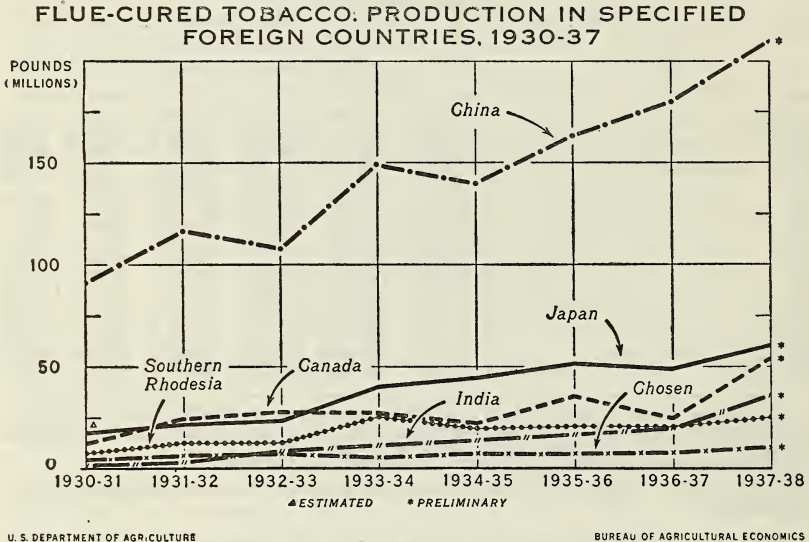
At the same time there has been a shift in western European countries toward the use of lighter blends of leaf in pipe tobaccos as well as in cigarettes. This shift in consumer habits results in a generally declining market for fire-cured leaf and to a smaller extent for dark air-cured leaf, as contrasted to a gradually increasing demand for flue-cured and burley tobacco. Shifts in consumption habits in oriental and other non-European countries have not influenced significantly in recent years the takings of American leaf tobacco.

Changes in the modes of tobacco consumption normally take place slowly, and sometimes are associated with disappearance of the generation addicted to one use of tobacco, and the increasing numbers having different preferences. In times of economic distress, however, more rapid changes in consuming habits may result from reduced purchasing power and consequent shifts to cheaper products.

## PRICES

High market prices for certain types of tobacco often cause manufacturers and dealers to look for supplies from alternative sources and to encourage competitive production. This has been a factor in the increased production of flue-cured leaf in Rhodesia, India, Canada, China, and Japan (fig. 1), although in such of the countries named as belong to the British Empire, preferential tariff rates on Empire tobacco imported into the United Kingdom also were an important factor.

FIGURE 1



The following is the approximate price range at which various types of leaf are quoted on European markets such as London, Amsterdam, Antwerp, Hamburg, and Copenhagen:

DARK TYPES		Cents per pound
United States Kentucky	-----	7 to 34
Nyasaland	-----	5½ to 27
Italy (cutting)	-----	8 to 15
Paraguay (cutting)	-----	5 to 8
Rio Grande (cutting)	-----	6 to 12
Hungary (cutting)	-----	4 to 8
Domestic <sup>1</sup> (cutting)	-----	5 to 13
MEDIUM AIR-CURED		
United States burley	-----	9 to 21
Java (cutting)	-----	5 to 15
Hungary (cutting)	-----	4 to 8
Paraguay (cutting)	-----	5 to 8
Rio Grande (cutting)	-----	6 to 8
Domestic <sup>1</sup> (cutting)	-----	5 to 15

<sup>1</sup> Domestic leaf also frequently enjoys lower tax rate.

	FLUE-CURED	<i>Cents per pound</i>
United States <sup>2</sup> .....	-----	6 to 60
Canada <sup>3</sup> .....	-----	5 to 50
Rhodesia <sup>3</sup> .....	-----	5 to 44
India.....	-----	4 to 35
China.....	-----	8 to 35
Algeria.....	-----	6 to 13

<sup>2</sup> Average price of grades used in Belgium is 7.1 cents, in Netherlands 11.8 cents, in Denmark 10 to 20 cents.

<sup>3</sup> On the English market.

On the English market Nyasaland fire-cured leaf is quoted at about a 25 percent lower price than comparable grades from the United States; Canadian flue-cured at prices slightly less than comparable United States grades; and Rhodesian flue-cured at prices approximately equal to the United States prices; while prices of Indian are materially below United States prices. These price differences are in addition to the duty preference.

#### QUALITY OF COMPETING TOBACCO

For many years certain countries have relied on American tobacco. In such countries, habits and preferences of consumers are to a large extent based on the aroma and flavor characteristic of the types and grades imported from this country. The problems involved in introducing substitute tobacco produced elsewhere relate, first, to the difficulty of producing tobacco of similar characteristics under a different environment, in which only partial success is possible; and secondly, that of effecting a change in popular taste in favor of the substitute tobacco. After many years of effort in variety selection, fertilizer experiments, handling and grading, improvement has been made in the quality of flue-cured and of the dark types of tobacco produced in some foreign countries.

Like general improvements in quality, weaning consumers away from, say American fire-cured, and diverting their preference to a similar type produced elsewhere, requires time. It involves including in the manufactured product small but gradually increasing percentages of the substitute type. If successful, the result is the substantial or complete replacement of American tobacco by the substitute. In countries where the manufacture and sale of tobacco is a government monopoly such change can be arbitrarily imposed upon the consumers.

#### (b) GOVERNMENTAL FACTORS

##### MONOPOLIES

A tobacco monopoly, as the term is used in this report, called a régime in some countries, is a branch of government clothed with wide powers for the control of the tobacco industry within the country concerned. Under monopoly control, growers are licensed to plant tobacco, in some cases the permit specifying the number of plants that may be grown, and the number of leaves allowed per plant. The monopoly exercises rigid inspection over the cultivation, harvesting and curing of the crop, requires delivery to itself, sets the prices to be paid, and imposes penalties for unauthorized production or other infractions of the regulations. Exports of surplus tobacco, imports

of foreign-grown tobacco, and the manufacture, distribution, and sale of tobacco products are either performed by the monopoly or under its control. Profits arising from the monopoly's operations inure to the State.

It is important to note that since the products offered for sale are those of the monopoly rather than those of independent manufacturers, competition for business based on quality of goods is lacking. This implies not only freedom to use substitute tobaccos even at the sacrifice of quality, to reduce costs, or to promote national trade policies, but through enforced use of substitute tobaccos the ability to effect an eventual change in popular taste in favor of the substitute types. Under these conditions the flow of tobacco in international trade may be quite different from that which would result from free competition for public favor as it is known in this country.

So far as the market for United States leaf is concerned, the important monopoly countries are France, Sweden, Spain, Poland, Italy, Czechoslovakia, and Japan. (Tobacco monopolies also exist in Hungary, Rumania, Yugoslavia, Bulgaria, and Turkey.)

#### IMPORT RESTRICTIONS

*Important duties and tariff preferences.*—There is considerable variation in the level of import duties on leaf tobacco among European countries, with the United Kingdom and Ireland having the highest general level of duties, as shown by the list of leaf tobacco tariff rates in appendix A. It may be noted that leaf imports by the monopoly are duty free in the case of France, Spain, Sweden, Italy, and Japan. In countries that produce a considerable quantity of domestic leaf, the import duty is naturally an important factor in influencing imports of foreign leaf, particularly the cheaper grades of leaf for low-priced tobacco products.

In England, which imposes no excise tax on manufactured tobacco products, a high rate of duty is levied on imports, with a preferential rate applied to imports from the British Empire. This preference, in effect since September 1919, has been a determining factor in the displacement of large quantities of United States fire-cured leaf by Empire leaf, as pointed out in the discussion herein pertaining to the United Kingdom tobacco market. Another instance is the recently changed import-duty rates into Switzerland where Netherland Indian and Italian leaf are admitted at materially lower rates than United States leaf.

*Import quotas.*—Aside from exchange control, the import quota or licensing system developed in a number of European countries since 1931 has been one of the most effective methods of restricting or limiting imports. The quota and licensing systems have been especially applicable to agricultural products during the past 7 years.

Import-quota permits or licenses, in addition to protecting domestic production, may be used to control trade balances, serve as retaliatory measures, or encourage the conclusion and enforcement of reciprocal trade arrangements. Among the European countries employing import quotas or import licensing for one purpose or another are Belgium, Bulgaria, Czechoslovakia, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands,

Norway, Poland, Portugal, Rumania, Spain, Sweden, Switzerland, Turkey, and Yugoslavia.

*Exchange control and clearing agreements.*—Restrictions on foreign-exchange transactions have been applied in a number of European and Latin American countries, beginning in 1930 or 1931. In several countries the allocation of foreign exchange is rigidly controlled by the central banking system. In others the exchange control does not operate to delay unduly the allocation of foreign exchange in payment of imports as in Czechoslovakia and Denmark. Among the European countries which apply restrictions of some kind to foreign exchange transactions are Bulgaria, Czechoslovakia, Denmark, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Rumania, Spain, Turkey, and Yugoslavia. Argentina and Brazil, as outstanding examples of rigid foreign-exchange control in Latin America, and Japan and Manchuria in the Far East, may be cited.

Clearing and compensation (barter) agreements which have been made between several European countries in order to effect bilateral balancing of trade, make possible trade exchanges in excess of quota and foreign exchange limitations, or the reduction of "frozen" or "blocked" accounts. These arrangements, especially the compensation and clearing transactions by Germany with several other countries (including certain overseas countries), have militated strongly against United States agricultural and other exports, particularly unmanufactured tobacco.

#### FISCAL POLICY

Tobacco has long been an important source of public revenue in most European and other countries, and particularly so in the United Kingdom. In most monopoly countries neither excise taxes on tobacco products nor import duties on the leaf are imposed, but equivalent revenue is obtained through manipulation of the price consumers pay for tobacco products, and a large share or all of the monopoly profits are customarily paid into the public treasury.

In most of the nonmonopoly countries there is both an import duty on the unmanufactured leaf and an excise tax on the manufactured product. The excise tax not only affects the retail prices of tobacco products and in turn the total consumption, but variations in excise rates as between products result in consumption shifts from one product to another, which in turn affects the types of leaf used. Danish tobacco fiscal policy affords an outstanding example. In 1928 the Danish excise taxes on cigarettes were approximately doubled, while taxes on cigars and cigarillos were materially reduced. Again in 1932, cigarette taxes were increased while cigar taxes remained unchanged. As a result the Danish consumption of cigarettes declined sharply, while the consumption of cigars and cigarillos, which had been declining sharply, rapidly increased to a 1937 level of 120 percent above that of 1928.

#### SUBSIDIZED DOMESTIC LEAF PRODUCTION

In several European countries the domestic production of leaf tobacco is subsidized through guaranteed prices to growers or through exemption or lower rates of excise tax on products made from home-grown leaf or exemptions from import duty on the foreign-leaf components of tobacco products containing a certain proportion of

domestic leaf. Furthermore, in some cases, government regulations require manufacturers to use specified proportions of home-grown leaf. Without such government assistance, the production and consumption of domestic leaf in western European countries would doubtless decline rather than increase.

In the monopoly countries France, Italy, Poland, Czechoslovakia, and Sweden, domestic production is under the complete control of the monopolies. The only other western European countries which produce significant quantities of leaf tobacco are Germany, Belgium, Spain, and Switzerland, and in each of these the Governments are assisting the growers in some manner. In Belgium the assistance is less than in the other countries, and consequently leaf production in Belgium has declined, whereas in Germany and Switzerland it has increased.

### MARKETING CONDITIONS FOR AMERICAN TOBACCO IN SPECIFIED COUNTRIES

#### EUROPEAN COUNTRIES

Europe as a whole is the most important export market for American unmanufactured tobacco. European countries account for around three-fourths of our foreign sales. The United Kingdom alone took over 55 percent of the total exports from our 1936 flue-cured tobacco crop, and over 65 percent from the 1937 crop. Other important European customers for flue-cured tobacco, used chiefly in the manufacture of cigarettes, are Ireland, the Netherlands, Belgium, and the Scandinavian countries. European countries take from 80 to 95 percent of United States exports of fire-cured, dark air-cured, burley, and Maryland tobacco.

Before discussing the export possibilities for each of the principal types of American leaf tobacco, an analysis will be made by country of the outstanding features of the leaf tobacco market, consumption trends, and possible future developments.<sup>1</sup> Inasmuch as the United Kingdom is by far the most important foreign outlet for American leaf tobacco, the analysis of the British market will be more comprehensive than that for the other European countries.

#### THE UNITED KINGDOM<sup>2</sup>

The United Kingdom imports more tobacco than any other country in the world. The United States has been the chief source of supply ever since colonial days. A variety of products is manufactured, about seven-eighths for home consumption and one-eighth for export. Despite the long-established popularity of pipe smoking in the United Kingdom the English are largely a nation of cigarette smokers. Their per capita consumption of cigarettes is almost equal to that of the United States, and their total per capita consumption of tobacco is among the highest of European countries.

To tobacco growers in the United States, the British market is second in importance only to the home market. Imports of American

<sup>1</sup> For a more detailed analysis of consumption and production alone than is possible in this report, see Department of Agriculture Technical Bulletin No. 587, issued November 1937, Consumption and Production of Tobacco in Europe (114 pp.), prepared by J. B. Hutson.

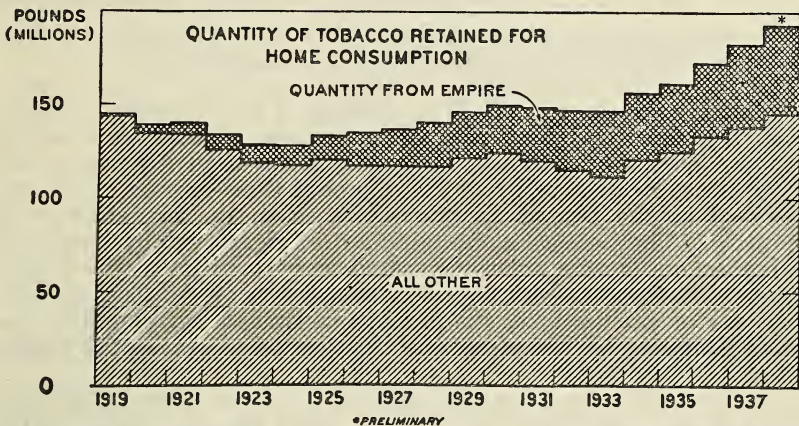
<sup>2</sup> For a more extensive discussion of the United Kingdom tobacco market and its requirements, see The Tobacco Market in the British Isles by P. G. Minneman, tobacco specialist, London office of the Bureau of Agricultural Economics, issued November 1937 (36 pp. mimeographed).

unmanufactured tobacco into the United Kingdom between 1929 and 1936 ranged between 125 million pounds and 214 million pounds, with an annual average for the 8-year period of 181 million pounds, export weight. This represented about one-sixth of the American tobacco production, one-half of the total tobacco exports, and two-thirds of the tobacco exports to Europe. Flue-cured tobacco growers normally send to that country 1 out of every 3 or 4 pounds of their crop. Moreover, since the British demand is for good-quality leaf, that market is on a high plane from the standpoint of value of purchases, its takings during 1935-37 having been valued by United States exporters at an annual average of almost \$95,000,000.

The demand in the United Kingdom since the World War has been primarily for light-colored Virginia cigarettes made from flue-cured tobacco. The taste for these cigarettes has become more and more

FIGURE 2

### United Kingdom: Home Consumption of Tobacco



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widespread. At the present time, about 75 percent of the total tobacco consumption in the United Kingdom is in the form of cigarettes, and over 99 percent of the cigarettes are made exclusively from flue-cured tobacco.

From 1910 to 1919, the United Kingdom obtained about 90 percent of its tobacco supply from the United States. Since then, through the development of Imperial commercial policy involving preferential treatment for leaf imports from the tobacco producing areas of the British Empire, increased quantities, especially of leaf for use in pipe tobacco, have been obtained from those British areas. (See fig. 2.) As a result of this development, the United States now supplies only about 76 percent of total leaf imports into the United Kingdom, consisting mostly of flue-cured tobacco for use in cigarettes.

The United Kingdom full-duty rates on foreign (non-Empire) leaf tobacco vary from the equivalent of \$2.24 to \$2.48 per pound,<sup>3</sup> depending on moisture content of the leaf and whether stemmed or unstemmed. The rates of import duty on Empire leaf tobacco are

<sup>3</sup> Based on the average exchange rate for the pound sterling during November 1933. See appendix A for the tariff rates in British currency for the different customs' classifications applying to foreign and Empire leaf tobacco.

the equivalent of approximately 50 cents (or 2s. 0.5d.) per pound lower than the corresponding rates on foreign leaf. This tariff differential in favor of Empire tobacco is one of the most important factors influencing the competition in the United Kingdom market between American and Empire leaf. Within the Empire the principal sources of supply for flue-cured tobacco are Southern Rhodesia, India, and Canada, and for dark tobacco Nyasaland and India. Foreign countries other than the United States supply less than 2 percent of the total.

*Consumption.*—With the exception of temporary recessions during the depression years, tobacco consumption in the United Kingdom has been increasing steadily. Before the war, the quantity retained for domestic consumption was less than 100 million pounds annually. Immediately after the war, this quantity rose to 138 million pounds. In 1923, during the first depression following the war, it dropped to 128 million pounds and later rose to 151 million pounds. During the depression of the early thirties, consumption declined to 149 million pounds in 1933. Since that time the trend has been steadily upward at an average increase of nearly 6 percent a year, 175 million pounds having been consumed in 1936 and 183 million in 1937.

The per-capita consumption of tobacco products in the United Kingdom is equivalent to about 4.5 pounds of leaf annually. This is about the fourth highest rate of per-capita consumption among European countries, although materially lower than the rate in the United States. As mentioned above, about three-fourths of the leaf consumed in the United Kingdom is used in the manufacture of cigarettes. The per-capita consumption of cigarettes, by weight, is the highest in Europe but is somewhat less than that of the United States. However, since a considerable portion of the English cigarettes are of smaller size, the number consumed per capita in the United Kingdom is estimated to be about equal to that in the United States.

In pipe mixtures and chewing tobacco there has been a shift from fire-cured and dark air-cured tobacco, which formerly made up the greater part of these two products, to flue-cured tobacco. In 1925, exports of American fire-cured and dark air-cured tobacco to the United Kingdom totaled 35,930,000 pounds, but in 1936 the quantity had declined to 5,859,000 pounds. About 80 percent of the tobacco now used in smoking and chewing mixtures is Empire-grown and about 20 percent is United States leaf. In other words, Empire leaf has largely replaced United States dark types used to a great extent in these products before Empire preference was established. Although some increase in the consumption of pipe mixtures has been noted recently, it does not appear likely that the consumption of smoking mixtures or chewing tobacco will be materially increased in the near future.

Cigar consumption in the United Kingdom is not important, inasmuch as it represents less than 1 percent of the total for all tobacco products and the proportionate share for snuff is even smaller than that for cigars. Although there may be some revival in cigar smoking, consumption will continue to be relatively small and of little importance to United States tobacco producers.

*Leaf requirements by types.*—To meet the leaf requirements of the cigarette industry in the United Kingdom, at the 1936 rate of con-



sumption and export, it is estimated that manufacturers need about 188 million pounds annually (unstemmed equivalent) of the better quality flue-cured leaf and a few hundred thousand pounds of oriental leaf. For the manufacture of pipe and chewing tobacco products, about 54 million pounds of leaf are required, subdivided approximately as follows: 24 million pounds of flue-cured leaf; 26 million pounds of the various types and qualities of dark leaf; 2 million pounds of burley, primarily from Canada; and 2 million pounds of oriental types, Latakia, and a little perique. For the manufacture of cigars the requirement is a little over a million pounds, largely East Indian leaf.

The total requirements for 1936 were around 243.5 million pounds, unstemmed basis, classified by types about as follows: 211 million pounds of flue-cured; 27 million pounds of dark types (two-thirds fire-cured and one-third dark air-cured); 2 million pounds of burley; and 3.5 million pounds of minor types. The countries supplying these requirements for 1936 according to the type of leaf utilized, and the quantities involved, are shown by table 3.

TABLE 3.—Approximate quantities of tobacco used in the United Kingdom in 1936, by type and country of origin (unstemmed leaf equivalent)

[In millions of pounds]

Country	Flue-cured	Fire-cured	Dark air-cured	Burley	Other types <sup>1</sup>	Total
Southern Rhodesia.....	11.0	0.5			0.2	11.7
India.....	8.0		7.0			15.0
Canada.....	6.2	.4	.4	2.0		9.0
Nyasaland.....	1.8	11.6				13.4
Others.....	1.1		.4		.2	1.7
Total Empire countries.....	28.1	12.5	7.8	2.0	.4	50.8
United States.....	182.9	4.5	1.5	.2	.1	189.2
Other foreign.....		.5			3.1	3.6
Total.....	211.0	17.5	9.3	2.2	3.6	243.6

<sup>1</sup> Including oriental types from Rhodesia, Greece, and Turkey; cigar leaf from Borneo and Netherland India; and Latakia from Syria and Cyprus.

It is estimated that about 85 to 88 percent of the total flue-cured tobacco used by United Kingdom manufacturers comes from the United States; of that used in cigarettes, it is estimated that between 93 and 95 percent is United States leaf; and of that used in other products, less than 50 percent. Of the dark tobacco, only about one-fourth, or from 6 to 7 million pounds, comprising Kentucky-Tennessee and Virginia fire-cured, and Green River, is obtained from the United States.

*Competition between American and Empire leaf.*—Several considerations motivate the British tobacco manufacturer in choosing American or Empire leaf tobacco, or certain proportions of each, but probably the most important factor is quality of the leaf. Other important considerations are margin of preference in favor of Empire leaf, price, availability of desired grades, consumer purchasing power, and consumer demand for products made from a certain type or blend of tobacco.

If the quality of Empire leaf corresponded with that of the United States leaf, it is reasonable to assume that the British tobacco manu-

factorer would prefer Empire leaf, especially in view of the fact that the import duty on the latter is about 50 cents per pound lower than the duty on United States leaf. This margin of tariff preference in some cases is more than the first cost of the tobacco. The fact that the annual share of United States leaf in the United Kingdom leaf-tobacco imports between 1920 and 1936 (excepting the depression years of 1932-33) ranged between 76.1 and 94.3 percent of the total would indicate that there is a considerable quality spread in general between Empire and United States leaf.

In the case of fire-cured leaf, however, Nyasaland fire-cured tobacco is more nearly comparable with Kentucky-Tennessee fire-cured types and more suitable for use in smoking mixtures than Empire flue-cured leaf is for use in cigarettes. Consequently, it is in the fire-cured type that the greatest displacement of United States leaf has occurred since the adoption of Empire preference in 1919. By 1936, exports to the United Kingdom of Kentucky-Tennessee fire-cured tobacco had declined to approximately 2,800,000 pounds compared with 22,000,000 pounds in 1925, while the 1936 exports of Virginia dark-fired amounted to only 1,400,000 pounds, compared with 4,900,000 pounds in 1925.

Production of Empire flue-cured leaf of a quality suitable for use in cigarettes of the kind demanded by British taste has so far presented a more difficult problem than has production of fire-cured leaf. Approximately 99 percent of the cigarettes consumed in the United Kingdom are manufactured exclusively from flue-cured tobacco, of which only 5 to 7 percent is Empire leaf, the remainder being accounted for by United States flue-cured.

Although the actual price of leaf tobacco represents a small part of the total cost to the British manufacturer, compared with the import duty, it appears that tobacco production in Empire countries has increased following years of small high-priced crops in the United States. New brands of cigarettes containing Empire tobacco are reported to have been most frequently introduced following years of high-priced American crops. The United Kingdom customarily takes the highest export grades of United States leaf, especially of flue-cured, and consequently imports thereof decline when our crops are short or contain less than the customary proportion of the higher grades. Some indication of the general price level, according to principal source, of unmanufactured tobacco imported into the United Kingdom may be seen from table 4.

TABLE 4.—Average value per pound, excluding duty, of unstripped leaf tobacco imported into the United Kingdom, 1930-36

[Amounts given in cents]

Country of origin	1930	1931	1932	1933	1934	1935	1936
Southern Rhodesia.....	31.4	24.6	19.1	21.2	22.5	20.2	20.1
Nyasaland.....	28.6	26.1	18.8	20.1	22.5	24.5	24.9
India.....	16.6	12.8	10.7	10.9	16.4	16.1	18.8
Canada.....	34.4	34.2	25.9	30.0	27.7	33.3	32.5
United States.....	30.0	23.2	18.3	21.5	33.8	32.1	32.3

Compiled from Accounts Relating to Trade and Navigation of the United Kingdom, December issues. Conversions to United States currency made at the average annual exchange rates for each year indicated.

The general level of consumer purchasing power, as influenced by prevailing industrial and trade conditions, is an important factor in the market competition between United States and Empire leaf. Imports of Empire leaf into the United Kingdom attained their highest proportionate share of total tobacco imports in the depression year 1932. Consumption of Empire leaf (as indicated by the amount of tobacco retained for home consumption) likewise registered the largest proportionate share so far recorded in 1933. In other words, the proportion of Empire leaf imported and consumed in the United Kingdom may be expected to increase in periods of industrial depression when consumer purchasing power is low.

*Outlook for American tobacco.*—Under present conditions the British market for American flue-cured leaf is expected to improve only slightly during the next 2 or 3 years, while the market for dark types is expected to decline somewhat further. American leaf is generally considered to be superior to Empire leaf and, on a comparable cost basis, would be generally preferred. About twice as much Nyasaland dark leaf, primarily fire-cured, as American dark leaf, is now used in the United Kingdom.

High leaf prices have had an adverse effect even on the British market. Manufacturers have recently complained that the prices of certain of the medium to lower grades have been advanced. A further complaint has been that dealers have been unable to obtain certain grades of leaf even though stocks of flue-cured in the United States were large. This situation appears to be due to increasing domestic requirements for these grades, and the consequent smaller supplies available for export.

At the present time stocks of American flue-cured leaf in the United Kingdom are about normal but stocks of Empire flue-cured are extremely large, especially of Indian and Canadian leaf. The current record crop in Canada and the prospects for considerably increased production during the next season in Rhodesia and India indicate that stocks of Empire leaf a year from now will be further sharply increased. The result will probably be materially lower prices for Empire flue-cured leaf, and manufacturers will doubtless find ways of using considerably larger quantities. On previous occasions when stocks of Canadian and Rhodesian leaf have been excessive, manufacturers eventually used increased quantities.

#### IRELAND

The tobacco market in Ireland is much the same as that in the United Kingdom. The most interesting differences are the high proportion of American tobacco used and the efforts made to increase domestic tobacco production. The most significant difference is the absence of the preferential duty rate on leaf imported from Empire countries. Although a part of the British Isles, Ireland is a separate political entity and imposes its own tobacco laws, regulations, and import duties, many of which are different from those in the United Kingdom.

Ireland is of special interest to our growers because United States leaf probably makes up a larger proportion of the total consumption than it does in any other country in the world (including the United

States). The total leaf requirements now are over 10 million pounds annually (unstemmed leaf equivalent), of which 97 percent is obtained from the United States and most of the remaining 3 percent is of domestic growth. Although the import duty ranges from the equivalent of from \$2.36 to \$2.62 per pound,<sup>4</sup> or about 5 percent higher than in the United Kingdom, there is no preferential duty on Empire-grown leaf.

A comparison of the extent to which American tobacco is used in the two countries is particularly significant, since the preference in duty is the only important difference. Similar tastes for tobacco products, demand for similar types of tobacco, similar organization of the manufacturing industry, a similarly high import duty, and the absence of an excise tax prevail in both countries. Furthermore, the two countries were under the same Government until a few years after the preference was introduced in the United Kingdom in 1919. It would seem reasonable to conclude by analogy that the extent to which Empire tobacco is now being used in the United Kingdom is largely due to the duty preference.

In 1936 about 9.5 million pounds of tobacco products were manufactured, nearly 60 percent in the form of cigarettes and nearly 40 percent in twist, roll, plug, and smoking mixtures. Consumption of snuff amounted to less than 2 percent and of cigars, less than 0.5 percent. Cigar consumption, as in the United Kingdom, is very small, principally because the high duty calculated on the weight of leaf results in almost prohibitively high cigar prices.

With the exception of the domestic leaf and a small quantity of Latakia, practically the entire leaf-tobacco supply is obtained from the United States. Of the 10 million pounds of leaf required annually for manufacture in Ireland, about 8.25 million pounds are estimated to be American flue-cured, 1.5 million pounds American dark types, and 0.25 million pounds domestic leaf. There appears to be no immediate danger of American leaf losing its dominant position on the Irish market. On the contrary, Irish takings of American tobacco, particularly flue-cured leaf, may be expected to continue a gradual increase proportionate to the increase in total consumption.

#### FRANCE

The tobacco industry of France is controlled by a State monopoly, the Service de l'Exploitation Industrielle des Tabacs. Dark tobacco accounts for the bulk of French consumption. Dark, medium-to-low-priced scaferlati, or cut tobacco, has been the most popular tobacco product for a long time. It is used largely in hand-made cigarettes and for pipe smoking. Domestic leaf production, all of which is of the dark types, has been well over 60,000,000 pounds annually in recent years, and accounts for around one-half of France's total leaf tobacco requirements. Domestic growers receive prices from the French tobacco monopoly substantially higher than prevailing prices for comparable nondomestic types and grades.

Since 1926 France has been by far the leading customer for American dark tobacco. Conversely, the United States is the outstanding foreign source of supply, with Algeria next in importance. During the 10-crop-year period, 1927-36, exports to France of Kentucky and

<sup>4</sup> See appendix A for the actual rates of duty in sterling currency.

Tennessee fire-cured leaf (types 22, 23, and 24) averaged 21,337,000 pounds, Maryland (type 32) 3,298,000 pounds, and Virginia fire-cured (type 21) 385,000 pounds. (For exports to France, of these types, for the years 1933-37, see appendix B.) It may be observed that the French monopoly's imports of American leaf have remained fairly constant during the past several years. Nearly 90 percent of American tobacco now imported is Kentucky and Tennessee fire-cured and most of the remainder is flue-cured. Maryland leaf has continued to decline in importance. Imports of leaf from other countries during the first half of 1938 have been materially below normal.

*Consumption trends and market prospects.*—Although the total value of tobacco products consumed during the first 7 months of 1938 was 12.3 percent greater than during the same period a year ago, this increase appears to be due almost entirely to the increase that occurred in prices of tobacco products about a year ago. It is reported that the quantity of cigarettes consumed has remained almost stable, whereas the consumption of smoking tobacco has declined somewhat, with the relatively lower purchasing power that resulted from increased cost of living and some decline in industrial activity.

It is not probable that French consumption of the dark types of tobacco will register any marked increase in the near future. Large supplies of dark air-cured domestic leaf are available as well as air-cured leaf from the colonies. The use of Maryland tobacco has declined sharply and there is no indication that this trend will be immediately reversed, although consumption of Maryland could probably be improved with greater attention to quality and packing. It is possible that the demand for flue-cured and burley may increase somewhat as the taste for lighter blends becomes more popular. The immediate outlook is not favorable, however, since the monopoly is forced to give priority to domestic and colonial leaf and does not encourage the consumption of new products made primarily from imported leaf.

Following the devaluation of the franc the prices of tobacco products advanced, and unofficial (press) information concerning the new French budget plans indicates that still further advances in the price of tobacco products may be expected which may, in turn, adversely affect consumption. Since the monopoly is a Government institution, the principal means of increasing French takings of American leaf tobacco other than through reduced leaf prices would appear to be through direct Government contact, perhaps such as revision of or amendment to the existing reciprocal trade agreement with France.

#### BELGIUM

The United States is the leading supplier of foreign leaf tobacco in the Belgian market, followed by the Netherlands. Domestic leaf production, consisting of dark, coarse, air-cured leaf used principally in low-priced pipe mixtures, accounts for about one-fourth of Belgium's total leaf-tobacco requirements. The most important product of consumption in Belgium is smoking tobacco, which comprises well over half the total. Cigarettes account for about one-fourth of total tobacco consumption, cigars for less than one-tenth, while chewing tobacco is relatively unimportant.

Belgium has always been a low-price leaf market, with low taxation and low-priced products. Consequently, the price of American leaf (in relation to competitive growths) is the outstanding factor in influencing imports into Belgium from year to year. Manufacturers generally have considerable latitude in their blends both for smoking mixtures and for cigarettes and as a result are able to substitute low-priced leaf from competitive sources when prices are attractive.

Predominating types of American leaf exported to Belgium are Kentucky-Tennessee fire-cured, burley, and flue-cured. Exports to Belgium of these three types during the 10 crop years 1927-36 averaged 6,992,000 pounds, 3,306,000 pounds, and 3,063,000 pounds, respectively. Appreciable quantities of Virginia fire-cured and Maryland (including some eastern Ohio) are also sold in the Belgian market.

*Consumption trends and market prospects.*—Belgian consumption of tobacco products during the first three-quarters of 1938 was at a rate well above that of the similar period in 1937. The greatest increase was in cigarettes and cigarillos. It is anticipated, however, that consumption, especially of cigarettes, during the next 12 months may be adversely affected by the increase in excise taxes which became effective on July 25, 1938. The increase was greatest in the case of cigarettes and resulted in an increase in retail prices, whereas taxes on smoking tobacco were not increased. It is anticipated, therefore, that there may be some shift from cigarettes to pipe tobacco.

Stocks of American leaf held primarily in bond by manufacturers were considerably lower on September 1, 1938, than at the beginning of the year. Stocks are now at about the same level as at the beginning of 1937 and may be considered normal or slightly below normal when compared with the present level of consumption. Under present conditions a gradually increased consumption of flue-cured and burley may be expected during subsequent years, but no appreciable increase is anticipated for fire-cured leaf. Increased quantities of American fire-cured would undoubtedly be consumed, however, if prices were considerably reduced.

Various dark types other than American leaf, such as Rio Grande, Paraguay, and Hungarian, are available in the Belgian market at a price range of 5 to 12 cents (excluding the duty) per pound, and domestic leaf at about 9 cents per pound, which, of course, is free of duty. Maryland type of Java leaf is available at around 5 to 15 cents per pound.

Total leaf-tobacco imports into Belgium during the first 8 months of 1938 were at approximately the same rate as in 1937, as were also imports from the United States, which totaled 8,000,000 pounds during the first 8 months of 1938. A greater proportion of the shipments during the past season has consisted of flue-cured tobacco, whereas the proportion of Kentucky-Tennessee fire-cured and dark air-cured has been smaller. Incidentally, the existing comparatively low duty on leaf-tobacco imports into Belgium is bound against increase through the reciprocal trade agreement of 1935 between that country and the United States.

## THE NETHERLANDS

Practically no leaf tobacco for commercial purposes is produced in the Netherlands. The two outstanding features of the Netherlands tobacco industry are the leaf auction markets and the export trade in tobacco products. The tobacco trade is free of Government regulation and consequently the qualities, prices, and changes in consumption habits are the principal factors affecting the demand for American and other leaf.

Per capita consumption of tobacco products in the Netherlands is among the world's highest. This is principally because tobacco products can be bought rather cheaply in the Netherlands, in consequence of which the use of tobacco has become a pronounced national custom. Smoking mixtures account for about one-half of total tobacco consumption, cigars about one-third, and cigarettes about one-sixth only.

Imports of American leaf account for about one-third or more of the Netherlands' total leaf tobacco requirements of around 50 million pounds annually, the bulk of the remainder being supplied by Netherland India. Of American leaf-tobacco imports, flue-cured leaf represents almost one-half the total, fire-cured leaf about one-third or more, and Maryland and burley the remainder. Under the provisions of the reciprocal trade agreement of December 1935, between the United States and the Netherlands, the latter's comparatively low import duty on American leaf is bound against increase.

*Consumption trends and market prospects.*—Consumption of smoking tobacco during the first 8 months of 1938 declined about 9 percent, while the consumption of both cigarettes and cigars increased. Aside from domestic consumption, one of the most important considerations is that the exports of smoking tobacco, which make up about one-fourth of the total quantity of this product manufactured, declined more than 25 percent below exports during the first 8 months of 1937. If exports of cut tobacco remain at the reduced level, the demand, particularly for Kentucky and Tennessee fire-cured leaf, will be adversely affected. On the other hand, the increasing cigarette consumption is reflected in an increased demand for flue-cured leaf, and to a lesser extent for burley. However, the use of light grades of Java leaf in blended cigarettes is also increasing, and this competes to a substantial extent with burley and flue-cured.

Stocks of American flue-cured in Netherlands bonded warehouses, largely held by manufacturers, on July 1, 1938, were the highest since 1935, but were not excessive when compared with the increased consumption. Stocks in the Netherlands of American fire-cured leaf on October 1, 1938, were considerably smaller than a year earlier but consideration must be given to the recent decline in consumption and especially in exports of smoking tobacco, as well as to the fact that imports of fire-cured leaf in 1937 were unusually large. Stocks of burley appear to be larger than a year ago notwithstanding the increased consumption of blended cigarettes. Maryland stocks are lower than a year ago.

Imports of all types of American leaf, except burley and flue-cured, were reduced during the first three-quarters of 1938, the sharpest reduction being in the case of Maryland. For the immediate future, no improvement in the demand for American fire-cured types is anticipated, owing to the downward consumption trend for dark types. The demand for flue-cured is expected to continue favorable, and that for burley also favorable, but possibly to a lesser degree than for flue-cured.

#### GERMANY

For many years Germany has ranked as an outstanding market for leaf tobacco, and prior to 1933 frequently displaced the United Kingdom as the world's premier leaf importer. A large share of Germany's total leaf requirements is supplied by the Balkan countries, which furnish oriental leaf for cigarettes, and by Netherland India and Brazil, which furnish cigar leaf. Domestically grown tobacco supplies from one-fourth to one-third of Germany's total leaf needs. Formerly American leaf, chiefly Kentucky-Tennessee fire-cured, and flue-cured types, accounted for around one-tenth or more of Germany's total leaf requirements, but since 1931 and more especially since 1936, there has been a heavy drop in German imports of American leaf.

Germany now consumes substantially more than 250,000,000 pounds of tobacco products annually, of which cigars and cigarettes each represent around one-third of the total, smoking mixtures somewhat more than one-fourth, while chewing tobacco and snuff together represent less than 4 percent. Cigarettes are manufactured almost exclusively from oriental leaf. Spinner grades of Kentucky-Tennessee fire-cured leaf are used in roll tobacco for chewing, while lugs and seconds are used in making the so-called Schwarzer Krauser, a cut tobacco used both for chewing and smoking. Flue-cured leaf is used with Java leaf and domestic-grown tobacco in fine-cut smoking mixtures.

*Consumption trends and current leaf imports.*—The consumption of tobacco products in Germany continued its upward trend during the first half of 1938, total consumption being about 4 percent greater than that of the same period in 1937. The greatest increase (8.8 percent) was in cigarettes. Cigar consumption also increased (3.3 percent). Consumption of all other products declined—smoking tobacco by 1.4 percent, chewing by 3.2 percent, and snuff by 0.7 percent. An important shift has taken place in the type of smoking tobacco from poorer-quality, low-priced pipe tobaccos to higher-priced fine-cuts. Ordinary pipe tobacco, made largely of lower-quality domestic leaf, declined 10.4 percent during the first half of 1938, whereas fine-cut, containing large proportions of flue-cured tobacco, increased 18.3 percent and preferential fine-cut increased 7.7 percent. This shift is not expected to be of benefit to American tobacco, however, so long as present restrictions on the importation of American tobacco are maintained.

Total leaf imports during the first 7 months of 1938 increased 2.3 percent in line with increased consumption. Imports from the United States during this period, however, totaled only 4,060,000 pounds, a decline of nearly 30 percent from the 5,720,000 pounds imported during the corresponding period in 1937. On the other hand, imports of Italian Kentucky-type leaf (fire-cured) increased sharply to 1,210,-



000 pounds, compared with 61,000 pounds during the same period in 1937 and 740,000 during the entire year 1937. In addition, the first shipment of 48 hogsheads of "Bright Italia" was sent to Bremen in June. Imports of Chinese leaf were maintained at last year's rate, while imports from Japan increased to 1,110,000 pounds of Chinese and 855,000 pounds of Japanese tobacco. It is also significant that 257,000 pounds of Rhodesian leaf were imported and 398,000 pounds of Hungarian leaf, both of which constituted sharp increases over the quantities imported the preceding year. Imports of tobacco stems and trimmings were reduced to about two-thirds of the volume imported during the first 7 months of 1937, the reduction being almost entirely in imports from the United States.

*Market prospects for American leaf.*—The dominant influence of the German Government's actions on the tobacco market is the stringent import-control system. American tobacco is not considered of vital importance to the German economic system and consequently foreign exchange is not made available for tobacco imports except for very small quantities. Some exports to Germany have been accomplished on a barter basis in exchange for German sales of Bulgarian oriental leaf to the United States.

German manufacturers who cannot obtain American leaf are forced to use domestic and leaf from other countries with which Germany is on a barter basis. Manufacturers definitely prefer American leaf to its substitutes and their stocks of American leaf are practically exhausted, but since (a) they are unable to import, (b) they have to operate under Government quotas covering the amount of American leaf which may be used in certain manufactured products, and (c) substitute domestic and Italian tobacco is plentifully available, therefore manufacturers are forced to use such substitutes.

Furthermore, consumers are gradually becoming accustomed to the taste of substitutes and the time may come when consumers will prefer other types to American leaf. The consumption of chewing tobacco (formerly made almost entirely from Kentucky fire-cured) is decreasing as a result of the substitution of Italian fire-cured. The outlook under present political conditions is very unfavorable and dependent almost entirely upon future Government actions. Incidentally, as soon as the former Austrian monopoly's leaf stocks become depleted, its requirements (or at least the requirements of the area formerly served by the monopoly) will undoubtedly come under the same limitations as the rest of Germany. At present, price plays practically no part on the German market. If the conclusion of a trade agreement involving the necessary trade easements (foreign-exchange allocation, etc.) were practicable, Germany's consumption of American leaf could be conceivably doubled or trebled.

#### POLAND

Although decreasing in importance as a market for American leaf as a result of increased home-grown supplies and imports from Italy, Poland still takes nearly a million pounds of Kentucky-Tennessee fire-cured and a small amount of flue-cured leaf. During the 10-year period 1926-35, Poland's imports of American leaf averaged 6.6 million pounds annually.

Total consumption of tobacco products in Poland is increasing, but there is a fairly rapid shift from cut smoking tobacco to cigarettes.

Consumption of cigarettes (largely from oriental or semioriental leaf), which makes up about half of the total, increased about 21 percent during the first 8 months of 1938 compared with the corresponding period of 1937, whereas smoking tobacco, which makes up most of the remainder, declined about 7 percent. Trade circles maintain that the shift from smoking tobacco to cigarettes is the result of the Polish monopoly's efforts to raise the quality of cigarettes and thereby induce consumers to purchase manufactured cigarettes, rather than purchase cut tobacco for hand-rolling.

The Polish monopoly has made strenuous efforts to increase its domestic leaf supply and its reported policy is to divert import requirements to countries which purchase Polish products. The result has been a decline in leaf purchases from the United States and materially increased domestic production, especially of flue-cured and of Kentucky fire-cured types of leaf. Poland's total leaf tobacco crop for 1938 is estimated at 33 million pounds, of which 7.7 million are reported to be of the "Kentucky" type, that is, fire-cured, and an equal amount of "Virginia" or flue-cured type. Prices to growers in Poland of Kentucky type leaf are from 5 to 13 cents per pound, and for flue-cured type from 5 to 21 cents per pound.

Leaf imports from the United States during the first 8 months of 1938 were slightly smaller in volume, although the value of American leaf was one-third greater than during the same period of 1937. Imports of American flue-cured tended to decline in importance whereas imports of Kentucky-Tennessee fire-cured were well maintained. Imports of Italian leaf, however, which totaled 4 million pounds during the year 1937, increased to 4.3 million pounds in the first 8 months of 1938. As in other countries where the industry is under monopoly control, increased outlets for American leaf (or even maintenance of present trade position) are dependent primarily on government action.

#### CZECHOSLOVAKIA

An outstanding feature of the tobacco industry in Czechoslovakia is the rapid expansion which has taken place in domestic leaf production since the post-war establishment of that country as an independent political entity. The domestic tobacco crop has increased from 2,400,000 pounds in 1920 (less than 500,000 pounds in 1919) to an average crop of 32,000,000 pounds during 1935-37. (The 1938 crop figure is not yet available.) This remarkable expansion in domestic production has been due primarily to the policies of the Czechoslovakian tobacco monopoly which dates from the year 1918.

In recent years between 40,000,000 and 50,000,000 pounds of tobacco products have been consumed annually in Czechoslovakia, over one-half of which is in the form of cigarettes and around 40 percent in smoking tobacco. Consumption will be considerably less in the immediate years ahead, however, because of the loss in territory and the resulting decrease in population since October 1, 1938. The bulk of tobacco imports comprise oriental leaf from Yugoslavia, Turkey, Bulgaria, and Greece. Cigar leaf is imported from the Philippine Islands, Netherland India, and Brazil, but it is estimated that cigars represent less than 5 percent of total tobacco consumption in Czechoslovakia.

Imports of American leaf into Czechoslovakia during 1929-35 averaged around 750,000 pounds per year, but fell to less than 400,000

pounds for 1936 and 1937. Leaf imports from the United States comprise principally fire-cured leaf for the manufacture of snuff, which, since 1929, has undergone a heavy consumption decline. American leaf formerly used in smoking mixtures has been largely displaced by domestic-grown tobacco. At various times in past years small quantities of burley and flue-cured leaf have been used in blended cigarettes.

*Domestic production losses and market prospects.*—According to preliminary estimates, approximately 75 percent of the entire domestic leaf-tobacco production has been lost through the recent cession of territory to Hungary. Tobacco consumption will, of course, be heavily reduced by the loss in population to Germany, Hungary, and Poland totaling approximately 35 percent of Czechoslovakia's entire population prior to the Munich pact. Inasmuch as domestic leaf production during the past 2 years has accounted for more than one-half of Czechoslovakia's total tobacco consumption, a considerable adjustment eventually in the leaf tobacco import trade will be necessary in order to supply the monopoly's requirements.

While it is too early at present to obtain data from the Czechoslovakian tobacco monopoly as to what readjustment measures are contemplated in connection with the changed leaf-supply situation, it is possible that improved prospects for American leaf may materialize. It is reported, however, that the monopoly has large stocks of domestic leaf on hand, consisting mostly of the lower grades suitable chiefly for cheap pipe tobacco and cheap cigarettes. The trade agreement between the United States and Czechoslovakia, signed on March 7, 1938, contains a commitment to the effect that the Czechoslovakian tobacco monopoly will endeavor to increase its purchases of American leaf tobacco, especially the cigarette grades.

#### SWITZERLAND

American leaf accounts for around 40 percent of Switzerland's total leaf-tobacco imports of about 15 million pounds annually. Other important foreign suppliers are Netherland India, Brazil, Italy, and to a lesser extent Greece and Bulgaria. Domestic production was relatively unimportant until recent years but since 1936 it is estimated to have accounted for around one-eighth of Switzerland's total leaf requirements.

Almost one-half of Switzerland's takings of American leaf is represented by indirect imports from Antwerp, Bremen, Genoa, or Marseilles. About one-half of the Swiss imports of American tobacco comprises the fire-cured types, principally from Kentucky and Tennessee. A large part of this fire-cured leaf is used as wrappers for the popular low-priced short cigars ("Stumpfen") and stogies (known as "Brissagos" and "Virginia" cigars). Small quantities of the better-grade dark Virginia type are also used in the Brissagos. Usually more than 1,000,000 pounds of Maryland are imported directly from the United States for use largely in cigarettes. Smaller quantities of burley and flue-cured leaf are used in blended cigarettes and smoking mixtures.

*Market prospects.*—Although imports of American leaf have been fairly well maintained up to the most recent months for which figures are available, it is reported that stocks of Kentucky-Tennessee fire-

cured and Maryland leaf are above normal as a result of increased imports in 1937. Indications point to a slower rate of consumption, particularly of American fire-cured tobacco. Several adverse Government factors enter into the picture.

The manufacture of "stumpfen" type cigars in which, as already pointed out, fire-cured tobacco is used, has been subject to Government quotas since the beginning of 1938. During the first two quarters of the year these quotas amounted to 90 percent of manufacturers' production during the comparable periods in 1937, and during the third quarter the quota was reduced to 80 percent. This restriction, imposed as a result of the accumulation of excessive stocks of manufactured cigars, was intended to protect cigar workers against unemployment and the industry against price cutting.

A further and more important factor adverse to the use of American leaf is the preference in import duty granted to competitive types. Although American Kentucky type tobacco for cutting purposes is admitted under an import duty of 2.7 francs per kilo (about 27.8 cents per pound), Italian "Kentucky" type leaf is admitted at 1.3 francs per kilo (13.4 cents per pound) under special agreement between the Swiss and Italian Governments. This Swiss-Italian agreement provides for the purchase of Italian leaf by Switzerland in return for Italy's purchase of Swiss-manufactured tobacco products, especially cigarettes. Another instance of duty preference is that of Java and Sumatra leaf from Netherland India, on which the import duty for use in the manufacture of cigars only was reduced from 2.2 francs per kilo on Java and 2.8 on Sumatra to 2.2 francs per kilo on both types. The agreement with the Netherlands is renewed every 3 months, and it is reported that these types are now being admitted at a rate of 1.9 francs per kilo.

Moreover, the proportion of home-grown leaf in pipe-tobacco mixtures is reported to be increasing from about 48 percent in 1936 to an estimated 70 percent in 1937, with a further increase in 1938. This, together with the duty preference on Italian tobacco, which is suitable for pipe tobacco, is definitely adverse to the outlook for American leaf.

#### ITALY

Prior to the World War, the annual leaf-tobacco production in Italy was between 20,000,000 and 25,000,000 pounds, and about 40,000,000 pounds of American fire-cured tobacco (largely the Paducah type) was imported. After the World War, the Italian tobacco monopoly adopted the policy (through price and import control) of filling as much as possible of its requirements from domestic leaf. Under this policy, Italy's leaf-tobacco production rose from approximately 28,000,000 pounds in 1920, to a level of around 100,000,000 pounds since 1929. Prior to 1923, more than 60 percent of the leaf tobacco consumed in Italy was imported, but by 1929 the share for imported leaf had declined to less than 20 percent, and from 1931 to the present exports of leaf tobacco from Italy have exceeded leaf imported.

Concurrently with the rapid increase in Italian leaf-production as described above, imports of American leaf into Italy were displaced from year to year until in 1930 only about 4,000,000 pounds were imported, 2,000,000 pounds in 1932, and less than 1,400,000 pounds in 1934, compared with approximately 36,000,000 pounds of American

leaf imported in 1923. During 1935-37, imports of American leaf into Italy averaged approximately 500,000 pounds per year. Imported Kentucky fire-cured leaf was formerly used in smoking mixtures and cigars, but in recent years its use has been confined chiefly to a few grades of cigars. There are no prospects for increased takings of American leaf, and it is doubtful whether the present comparatively low takings will be maintained in future years. The chief significance of Italy in relation to the European market prospects for American leaf is the increasing importance of that country as an exporter of leaf tobacco in competition with American fire-cured types.

*Italian leaf tobacco exports increasing.*—A large part of Italy's domestic leaf production is similar to the fire-cured types grown in Kentucky and Tennessee. The so-called Kentucky-type Italian leaf is also fire-cured, and it has not only displaced almost completely the very large imports formerly of Kentucky fire-cured leaf, but is being exported to certain European countries in increasing quantities as a substitute for American fire-cured tobacco. Some Italian dark air-cured leaf is also exported.

Total leaf tobacco exports from Italy in 1937 were 12.5 million pounds, or more than double those of 1936. During 1937 Italian dark tobacco in the amount of approximately  $3\frac{1}{2}$  million pounds were shipped to Poland,  $2\frac{1}{4}$  million to Germany (where it is replacing American fire-cured leaf), 2 million to Belgium,  $1\frac{1}{2}$  million to Switzerland, and almost one-half million pounds to former Austria.

During the first 8 months of 1938, exports of Italian leaf amounted to 13.5 million pounds (or more than the total for all of 1937), compared with 8.4 million and 4.6 million pounds during the same periods in the 2 preceding years respectively. The principal purchasers of Italian leaf continue to be Poland, Germany, Belgium, and Switzerland. Italy, through agreements with manufacturers in other countries such as Switzerland and Belgium, has been able to sell increased quantities of leaf by agreeing to take in return increased quantities of manufactured tobacco products.

#### SPAIN

For several years prior to the outbreak of civil war in 1936 Spain was an important market for United States fire-cured leaf, chiefly the Kentucky-Tennessee types. Between 1931 and 1935, exports of these types to Spain varied between 5.4 million and 15.9 million pounds annually. The bulk of Spanish takings, however, were of the cheaper grades, and few other countries imported leaf tobacco from the United States at a lower cost per pound than Spain. The Philippine Islands has been the chief source of supply for several years, followed generally (until 1936) by the United States, Cuba, and the Netherland India. Domestic tobacco production, comprising air-cured leaf principally of the Kentucky and Valencia types, averaged around 16,000,000 pounds annually during 1932-35.

Spain's total consumption of tobacco products between 1929 and 1935 ranged between 55.2 million and 61.5 million pounds annually, of which smoking mixtures represented about two-thirds of the total, cigarettes less than one-third, and cigars (and a small amount of snuff) the remainder. The Spanish tobacco industry had been controlled by a monopoly since 1900, but the prices of tobacco products were

fixed by the Minister of Finance, and as compared with other countries, they were very low.

*Market prospects.*—Very little information regarding the tobacco situation is available from Spain, but it is known that tobacco stocks are very low especially in the area controlled by the Spanish Government. The territory controlled by the Franco forces, however, has by far the greatest proportion of the domestic tobacco-growing area and it appears to be more able to obtain supplies from Italy. A transaction was recently consummated between the Spanish Government (loyalist) representatives and the Eastern and Western Dark Fired Tobacco Growers' Associations for a reported purchase of 10 million pounds of American fire-cured tobacco. This tobacco is expected to move forward during early 1939 and is the largest direct movement to Spain since hostilities began in that country. Should hostilities cease, there will undoubtedly be a market for a larger quantity of low-priced Kentucky-Tennessee fire-cured leaf and lugs.

It is reported that the 1937 crop in Franco territory amounted to 16 million pounds (or around the annual average for all of Spain preceding hostilities), but that the 1938 crop amounted to only about 4.5 million pounds because of the large reduction in plantings. However, extensive preparations are reported to have been made for an increase in plantings in 1939 to the extraordinary figure of 25,000 acres, which, if accomplished with past normal yields, would produce a crop of more than 35 million pounds, or more than double the 1937 crop.

#### PORTUGAL

No tobacco for commercial purposes is grown in Portugal. During recent years the consumption of United States leaf has been maintained at a fairly constant level of from 4 million to 5 million pounds annually, representing two-thirds or more of Portugal's total leaf tobacco consumption. More than one-half of United States leaf imported into Portugal is burley, and the remainder comprises fire-cured and flue-cured leaf. The burley and flue-cured leaf is used largely in cigarettes, while the fire-cured types, mostly lugs and seconds, are used principally in the low-priced smoking mixtures.

The consumption of tobacco products in Portugal, especially smoking tobacco and cigarettes, continues to increase and the market for American leaf continues to be favorable, provided, however, that leaf prices do not materially increase. Stocks are not excessive and the imports of burley have increased gradually to around 2.5 million pounds a year, whereas imports of Kentucky-Tennessee fire-cured total about 1.2 million pounds and of Virginia fire-cured about 0.3 million.

#### SCANDINAVIAN AND BALTIC COUNTRIES <sup>5</sup>

The Scandinavian and Baltic countries constitute an increasingly important market for American leaf tobacco. Together these seven most northern European countries in 1937 took about 21 million pounds of American tobacco, valued at more than \$5,000,000. This

<sup>5</sup> Denmark, Sweden, Norway, Finland, Latvia, Lithuania, and Estonia. For a more extensive discussion of the market of leaf tobacco in these countries see *The Market for American tobaccos in the Scandinavian and Baltic Countries* by P. G. Minneman, tobacco specialist, London office of the Bureau of Agricultural Economics, in *FOREIGN CROPS AND MARKETS*, pp. 505-544 (processed), Nov. 1938.

is more than one-fifth of the total quantity of American tobacco used by all continental European countries and more than that taken by any single continental country with the exception of France, which now takes about the same quantity. These countries take about one-third of total United States exports of Virginia fire-cured, nearly one-fifth of the burley, one-tenth of Kentucky-Tennessee fire-cured, and more flue-cured than any single European country except the United Kingdom.

The consumption of American leaf is generally increasing in these countries, whereas in most other continental European countries it has lost ground during the past 10 years. Another favorable factor is that foreign trade is somewhat less restricted by nationalistic self-sufficiency policies than in many European countries. Although small quantities of tobacco are grown in each, the climate and soil are unsuitable and the total home-grown crop is only about 2.25 million pounds, or less than 5 percent of total requirements. Furthermore, much of the home-grown leaf is consumed by the growers without being manufactured. Over 95 percent of the total leaf requirements, therefore, are imported.

Formerly a high proportion of the business in American leaf was handled by dealers in these countries, but now only a small proportion is thus handled. Most of the American tobacco is purchased by manufacturers either direct through their leaf buyers in the United States or through the local agents of American exporters. The Swedish monopoly buys its supply of American leaf almost entirely through its own office in Richmond, Va. About 41 percent of total leaf imports into these countries are United States leaf, as shown by table 5, while oriental-type leaf from the Balkans and cigar leaf from Netherland India and Brazil comprise the bulk of the remainder.

TABLE 5.—*Net imports of tobacco into the Scandinavian and Baltic countries and proportion from the United States, approximate 1937 level*<sup>1</sup>

[In thousands of pounds]

Country	Total	From the United States	
		Quantity	Percentage
Denmark.....	17,846	5,523	30.9
Sweden.....	13,505	7,923	60.0
Norway.....	6,327	4,916	77.7
Finland.....	8,025	1,411	17.6
Estonia.....	1,550	229	14.8
Latvia.....	2,403	662	27.5
Lithuania.....	1,722	551	32.0
Total.....	51,078	21,215	41.5

<sup>1</sup> Unmanufactured tobacco, including stems.

With respect to the outstanding features of the consumption habits in each of the countries, Denmark is noted for its high per capita consumption of cigars, in Europe being second only to the Netherlands. Norway consumes largely pipe tobacco, but at the same time has the highest chewing-tobacco consumption in Europe. Sweden is noted for its snuff, per capita consumption of which is more than five

times that of any other European country. In Finland and the Baltic states cigarettes (almost exclusively from oriental leaf) over-shadow all other products, and the only other product of any importance is pipe tobacco.

*Total leaf requirements.*—The total manufacturing requirements of leaf tobacco in these countries in 1937 approximated 51 million pounds, as indicated in table 6. It will be noted that oriental leaf (chiefly from Greece, Bulgaria, and Turkey) is the most important single type, accounting for about 33 percent of total requirements. Cigar-type leaf (chiefly from Netherland India and Brazil) makes up about 24 percent, flue-cured 21 percent, fire-cured about 13 percent, and burley 4 percent, with smaller quantities of Maryland and miscellaneous types of dark air-cured leaf, including that grown domestically.

TABLE 6.—*Total leaf requirements in Scandinavian and Baltic countries estimated by type, 1937*

[In thousands of pounds]

Country	Flue-cured	Burley	Fire-cured	Oriental	Cigar leaf	Other types <sup>1</sup>	Total
Denmark.....	3,087	1,015	1,190	2,755	9,590	519	18,156
Sweden.....	2,790	430	3,244	3,136	1,964	<sup>2</sup> 1,323	12,887
Norway.....	2,358	400	2,140	1,120	220	90	6,328
Finland.....	1,113	67	143	6,060	441	0	7,824
Baltic States.....	1,298	33	97	3,704	235	385	5,752
Total.....	10,646	1,945	6,814	16,775	12,450	2,317	50,947

<sup>1</sup> Includes about 130,000 pounds of Maryland and 62,000 pounds of dark air-cured from the United States, about 900,000 pounds of miscellaneous types from other countries, and about 1,225,000 pounds of home-grown leaf, largely used in snuff.

<sup>2</sup> About 80 percent home-grown.

Unmanufactured tobacco shipped from the United States to the Scandinavian and Baltic countries in 1936 and 1937 averaged 21.6 million pounds per year, classified as follows: Flue-cured, 11.1 million pounds; Virginia fire-cured, 3.4 million; Kentucky-Tennessee fire-cured, 3.7 million, burley 1.8 million, other types 0.2 million, and stems and scrap 1.4 million pounds. Nearly all the flue-cured, fire-cured, and burley leaf imported into these seven countries is obtained from the United States. Only between 5 to 10 percent of flue-cured leaf is obtained elsewhere, and less than 5 percent in the case of fire-cured. Flue-cured leaf and burley are used in both cigarettes and smoking mixtures, Virginia fire-cured in smoking mixtures and chewing tobacco, and Kentucky-Tennessee fire-cured in snuff and chewing tobacco.

*Consumption trends and market prospects.*—Consumption of tobacco products in these seven countries in 1937 totaled 60.1 million pounds, a record high level compared with 56.7 million pounds in 1929 and 1930. During the depression in 1932 and 1933, consumption declined to 51.6 million pounds, but has been rising steadily since then.

Cigarette consumption is increasing, and there is a continuing shift from oriental-type to blended cigarettes. Indications point to an increased demand for United States flue-cured leaf, and to a smaller extent, for burley. For Virginia and Kentucky-Tennessee fire-cured leaf, used in chewing tobacco, smoking mixtures, and snuff, the outlook is somewhat unfavorable owing primarily to the declining trend in chewing tobacco.



## FAR EASTERN AND OTHER COUNTRIES

After Europe, which takes around three-fourths of our total leaf tobacco exports, the Far East, especially China, has been for several years our next most important foreign outlet for leaf tobacco. Since 1935, however, the average annual exports of American leaf tobacco (almost exclusively flue-cured) and stems have averaged only about one-third the average exports during 1929-31 to the Far Eastern countries—China, Manchuria, the Japanese Empire, British India, and Netherland India.

Several factors account for this sharp decline in exports of American leaf tobacco to the Far East, such as the large increase in domestic production of flue-cured tobacco which, in turn, has been stimulated by the depreciation of the Chinese and Japanese currencies relative to the United States dollar. Moreover, prices for domestic flue-cured leaf in the Far East have been kept much below prices for American flue-cured, as a result of low production costs, protective tariffs, and the heavily depreciated local currencies.

Other important foreign outlets for American leaf are Australia and West Africa (British and French possessions). South America and Canada are comparatively unimportant in relation to total American leaf tobacco exports. In the following discussion, by country, of the outstanding leaf tobacco markets the material relating to China, because of its importance as a market for American flue-cured leaf, will be more comprehensive than that for the other countries.

## CHINA

For many years China has been an important market for American flue-cured tobacco. No country has bought more except the United Kingdom. As in many other countries, expansion of the cigarette industry in China has added a new significance to flue-cured types from the United States and those types have been greatest in demand. Consequently, the recent shift in China from the use of American flue-cured tobacco to the Chinese-grown product is of vital importance to many American tobacco growers.

Cigarette factories in China from 1928 to 1931 consumed annually about 100 million pounds of American leaf. During the past few years, cigarette factories have been rapidly substituting Chinese-produced leaf because of its lower price. American leaf has cost proportionately more on account of the increased import duties, and the higher taxes on cigarettes have forced manufacturers to make lower-priced cigarettes.

*Domestic production and consumption.*—Tobacco is now grown to some extent in every province in China. The total volume of production is not definitely known, but it has been variously estimated to be about 1,300 million pounds, farm weight, classified as follows: Sun-cured types (light and dark) 47 percent; cigar types, 40 percent; and flue-cured types, 13 percent. The sun-cured types are chiefly used in pipes, with small quantities used in cheap cigarettes. A small quantity of both light and dark type is exported. Cigar leaf is used primarily for pipe tobacco and to some extent for cigars. The flue-cured crop is largely consumed in China as a substitute for American flue-cured in the manufacture of cigarettes.

Chinese production of the flue-cured type began commercially about 1916. Both seeds and methods were introduced from the United States. Development has been rapid. The crop increased in 21 years from 2.4 million to 210 million pounds, the estimated production of 1937. Other potential producing areas are available, and further expansion is possible.

It is estimated that in recent years China has consumed annually about 1,200 million pounds (redried) of tobacco of all types combined. Of this amount, approximately 80 percent is used in pipes, 15 percent in cigarettes, 4 percent in cigars, and 1 percent in snuff. Per capita consumption is estimated at about 2.8 pounds per year, which compares with 6.6 pounds in the United States. The low per capita consumption is attributed in part to lack of purchasing power.

Cigarette consumption in China has grown during the past three decades about as rapidly as it has in most western nations. In 1910 cigarette consumption totaled only 18 million pounds. By 1920 it had increased to 50 million and in 1930 to 180 million pounds. During the past 7 years, the average annual consumption has remained at about 180 million pounds. About 10 percent of China's total cigarette consumption comprises hand-rolled cigarettes, made by small hand contrivances, capable of producing from 50 to 100 cigarettes per hour. Low-grade native flue-cured tobacco and small quantities of native sun-cured are used, and the finished product is sold at prices much below the cheapest factory-made cigarettes.

*Imports of American leaf and market prospects.*—For many years the United States has been the chief source of leaf imports into China. In recent years American leaf has accounted for more than 90 percent of China's total leaf imports. During 1928–31 imports of American leaf into China averaged about 135 million pounds annually, but declined to an annual average of less than 40 million pounds during 1935–37. The future trend of imports of American flue-cured tobacco into China is dependent on several factors, the chief ones being the consumption trend of cigarettes, the amount of domestic flue-cured leaf produced, the price relationship between Chinese and American flue-cured leaf, foreign-exchange control and currency depreciation, and, of course, the outcome of the Sino-Japanese military conflict.

The consumption of factory-made cigarettes in China during the season 1937–38 (October through September) is estimated at only about 60 percent of that of the preceding season (1936–37). This decline, however, was partly offset by a large increase in the consumption of hand-rolled cigarettes, and total consumption of both kinds of cigarettes is estimated at about 72 percent of 1936–37. Reduced consumption of factory-made cigarettes resulted primarily from hostilities at factory centers during part of 1937–38, which curtailed production, and from decreased purchasing power combined with higher prices for machine-made cigarettes. Conditions in China are too uncertain to afford a basis for a long-time forecast of the probable consumption trend of factory-made cigarettes, but for the immediate future the outlook does not appear favorable.

Flue-cured tobacco production in China for 1938 is estimated at about 81 million pounds, as compared with the record 1937 crop of 210 million pounds. The large decrease results from the effects of hostilities which have prevailed to some extent throughout most of the past year in all producing districts. The approximate average

price for Chinese flue-cured leaf at Shanghai, the chief production center for factory-made cigarettes, was 8.5 cents per pound during the 1937-38 season, compared with 16 cents per pound for American flue-cured. Prices for the 1938 Chinese flue-cured leaf will probably average somewhat higher during the 1938-39 season, especially if it appears that conditions are likely to return to normal by 1939-40. Any substantial increase in prices for Chinese flue-cured leaf, will, of course, stimulate domestic leaf production.

The outlook for the next few years as regards production, consumption, and import requirements of flue-cured tobacco in China, has been altered materially by hostilities that have prevailed during the past year. As long as fighting continues in China, both leaf production and cigarette consumption will continue at reduced levels. Leaf imports will also be restricted to minimum quantities needed to supplement domestic production, and actual imports are likely to be lower than for the past 2 years. Whenever hostilities cease, however, it is anticipated that cigarette consumption will increase sharply, but import requirements and the sources from which they are supplied will be determined by the commercial and financial policy of the political regime then in power.

#### MANCHURIA

The production of flue-cured leaf tobacco in Manchuria, used almost exclusively for cigarette manufacture, has increased gradually from around 2 million pounds in 1931 to 5.3 million pounds in 1937. The 1938 domestic crop from American-type flue-cured seed is estimated at approximately 12.5 million pounds, or more than twice the 1937 crop. It is reported, however, that a substantial part of the 1938 crop will be air- or sun-cured but that practically all of it will be used in cigarettes.

It is estimated that 45 million pounds of flue-cured leaf were used in cigarette manufacture in Manchuria during the 1937-38 season, compared with the 5-year average of around 27 million pounds during 1931-32 to 1935-36. It is anticipated that factory utilization during 1938-39 will be somewhat less than for the preceding season.

The estimated average price paid by manufacturers for Manchurian flue-cured leaf of the 1937 crop was around 7 cents per pound, but the average price for the 1938 crop will probably be somewhat higher. The use of United States leaf, as a result of its relatively high cost, is limited to quantities needed to supplement that which can be purchased from China and Japan. The Manchurian Government is encouraging the expansion of flue-cured tobacco and plans to reach a production of 37 million pounds by 1941.

Under the trade control law promulgated by the Manchurian Government in December 1937, imports of leaf tobacco in 1938 were limited to a total value of 6,500,000 Manchurian yuan (\$1,946,800), compared with leaf imports during 1937 valued at 7,600,000 yuan (\$2,190,720). The permits for tobacco imports are allotted to different companies, a small amount at a time, and it is reported that permits since February 1938 have not been sufficient to purchase all the leaf required to meet factory demands.

Imports of United States flue-cured leaf into Manchuria during the 1937-38 season (October through September) are estimated at around

10 million pounds, compared with 15 million in 1936-37, and 8 million pounds in 1931-32. Imports of United States leaf during the current season (1938-39) are expected to show a decline, owing chiefly to exchange difficulties. Moreover, the long-time outlook for United States leaf in the Manchurian market is unfavorable owing to the probable heavy increase in Manchurian production of flue-cured tobacco as well as the foreign trade control policies of the Manchurian Government.

## JAPAN

Production of flue-cured leaf in the Japanese Empire during 1938 is estimated at 82,719,000 pounds, as compared with 74,174,000 in 1937, and the 5-year average (1931-35) production of 43,815,000 pounds. In other words, the record flue-cured tobacco crop of 1938 was almost twice the 5-year average, and almost 3 times the 1931 flue-cured crop of 28,856,000 pounds. There has been a steady increase since 1931 (with exception of a slight decline in 1936) of the production of flue-cured leaf within the Japanese Empire—Japan proper, Korea, and Formosa. The bulk of flue-cured leaf produced and imported is used in cigarette manufacture.

Farm prices for the 1937 crop of Japanese flue-cured leaf averaged about 11.3 cents per pound, as compared with 9.6 cents for the 1936 crop, and an average of 9.2 cents per pound for the 1931-35 flue-cured crops. Prices paid for the 1938 flue-cured crop in the Japanese Empire will probably be near those paid for the 1937 crop. Aside from the superior quality of United States flue-cured leaf, the wide price spread between it and Japanese flue-cured obviously works to the advantage of the latter, particularly in a tobacco-products market preponderantly of low-income consumers as is true for the Far East in general.

Imports of leaf tobacco into the Japanese Empire during the 1937-38 season declined sharply as a result of economy measures instigated for the purpose of limiting the expenditure of foreign exchange. It is estimated that imports of United States leaf totaled only about 1,500,000 pounds as compared with 7,000,000 for 1936-37, and an average of 5,600,000 pounds during 1931-32 to 1935-36, inclusive. Imports of flue-cured leaf from China have to some extent displaced United States leaf. It is reported that supplies of United States flue-cured leaf now on hand in the Japanese Empire, the use of which is restricted to small quantities used in high-grade tobacco products, will be sufficient for the next 2 or 3 years. During this period, imports of United States leaf are expected to range from not more than 500,000 pounds to almost none.

## BRITISH INDIA

The production of American-type flue-cured tobacco in British India has increased rapidly in recent years. It is estimated that the 1930 flue-cured crop totaled less than 1.5 million pounds, exceeded 10 million pounds in 1934, and was approximately 38.5 million pounds in 1938. The 1939 flue-cured tobacco crop in British India is estimated at 42 million pounds. This remarkable increase since 1930 has resulted from the enlarged demand for both domestic manufacture and export chiefly to the United Kingdom where Empire leaf enjoys tariff preference. The average farm price for British India flue-cured leaf during the past 5 years has been about 10.8 cents per pound as contrasted

with the average farm price of 21.7 cents per pound for United States flue-cured.

Imports of United States flue-cured leaf (including stems) into British India have declined from approximately 5 million pounds during the fiscal year 1932-33 (ending March 31) to an estimated 3 million pounds during 1937-38. The import duty on United States leaf has been equivalent to almost \$1.25 per pound since 1934. The long-time prospects for American leaf in the British Indian market are not favorable. In fact, British Indian flue-cured leaf may displace further quantities of United States flue-cured leaf in the United Kingdom market under advantage of the 50-cents-per-pound margin of tariff preference. Present conditions point to a further considerable expansion in British India's flue-cured tobacco production for which suitable area is available.

#### NETHERLAND INDIA

Production of flue-cured tobacco on a commercial scale was begun in Netherland India in 1929 when approximately 100,000 pounds were grown. Since 1929 domestic production of leaf from United States flue-cured tobacco seed has gradually increased until in 1937 a crop of 4.3 million pounds was produced and the 1938 crop is estimated at 5.7 million pounds. Prices paid to farmers for this type of leaf during the past 5 years have averaged the equivalent of about 6.0 cents per pound, or around one-fourth the average farm price for United States flue-cured leaf during the same period.<sup>6</sup>

Imports of United States flue-cured leaf into Netherland India have declined from around 13 million pounds in 1930 to less than 7 million in 1937, and the 1938 imports are estimated at not more than 5.5 million pounds. The use of United States leaf is restricted by a Government regulation which at present requires that 60 percent of the tobacco used in machine-made cigarettes for the domestic market shall be leaf grown in Netherland India. Moreover, the bulk of cigarettes sold in Netherland India is retailed at prices averaging the equivalent of around \$1.65 per thousand (including an excise tax of 50 cents). Obviously it is not possible to make extensive use of United States leaf in cigarettes retailing at this price.

In view of increasing domestic production of leaf grown from United States flue-cured seed, the requirement that a fixed percentage of this domestic leaf be utilized in cigarette manufacture, and the wide spread in prices of domestic and American leaf (although the former is greatly inferior in quality), the outlook for American leaf in Netherland India's market is unfavorable.

#### AUSTRALIA

Domestic leaf tobacco production in Australia in recent years has ranged from around 3 million to 6½ million pounds annually. Prior to the 1931-32 season, domestic leaf production seldom exceeded 2 million pounds and was often lower. Around a fifth only of the total leaf utilized by Australian tobacco manufacturers is of domestic origin. Imports of about 20 million pounds of leaf tobacco per year, almost entirely from the United States, are necessary to satisfy Australia's leaf requirements in addition to the quantity of domestic leaf available.

<sup>6</sup> In connection with these price comparisons, as with those for Chinese, Japanese, and other oriental flue-cured tobacco, it must be emphasized that such tobacco is by no means comparable in average quality with that of American flue-cured tobacco.

Exports of United States leaf to Australia during 1936 and 1937 averaged approximately 20.8 million pounds, valued at \$7,332,000. Of this average total, flue-cured leaf accounted for 19.6 million pounds, burley 0.8 million, and dark Virginia leaf 0.4 million pounds. There is no tariff preference in favor of Empire leaf tobacco, that is, United States leaf and Empire leaf are dutiable at the same rates on importation into Australia. There appears to be no reason, from all the information available, why exports of United States leaf tobacco should not continue in about the present volume. Upon further improvement in economic conditions in Australia, some increase in the demand for United States leaf tobacco is anticipated.

#### BRITISH AND FRENCH WEST AFRICA

The bulk of tobacco imported into this area, particularly British West Africa, is known as Black Fat, Water Baler, or Dark African, and is processed in the United States principally from One Sucker leaf (type 35) grown mainly in southern Kentucky. Other leaf (dark-fired types 21 to 24) is also used to some extent. The method of processing and exporting this kind of tobacco to West Africa and elsewhere is known as the rehandling trade. Total exports of this kind of tobacco between 1934 and 1937 ranged between 7.8 million and 10.1 million pounds, of which West Africa accounted for considerably more than one-half the total.

Exports from the United States of Black Fat, Water Baler, and Dark African to British West Africa (chiefly Gold Coast and Nigeria) totaled 3.8 million pounds in 1937, and 5.2 million in 1936, compared with the 10-year average, 1927-36, of 4 million pounds. Corresponding exports to French West Africa (excluding Algeria and Tunisia) totaled 2.5 million pounds in 1937 and 2.6 million in 1936, compared with the 10-year average of 2.1 million pounds. There are no reasons to assume that the present volume of United States tobacco exports to West Africa will not be maintained at about the present level during the next few years. On the other hand, no considerable increase in this trade is anticipated.

#### SOUTH AMERICAN COUNTRIES

Several of the South American countries not only produce enough leaf tobacco for their own general requirements but have a surplus for export, notably Brazil, Paraguay, and Colombia. In Brazil, the leading South American tobacco producer, total leaf production has risen from 162.4 million pounds in the crop year 1919-20, to approximately 206 million pounds in 1936-37. During the same period Argentina's leaf tobacco crop has ranged between 17.7 million and 52.3 million pounds. While South America as a whole may be regarded as self-sufficient in leaf tobacco production, almost each country imports varying quantities of certain types for blending purposes or for use in high-quality tobacco products for which there is a limited market generally.

Exports of United States leaf tobacco to South American countries during the 10-year period 1927-36 averaged approximately 3 million pounds, and in 1937 totaled 3.2 million. Argentina occupies first place in our leaf export trade with South America, leaf exports to that

country in 1937 having totaled 2.2 million pounds, of which flue-cured leaf accounted for 1.7 million, burley 0.2 million, Kentucky-Tennessee fire-cured 0.1 million, dark Virginia 0.2 million, and Maryland 0.1 million pounds. The next ranking countries during 1937 and the quantity of United States leaf imported were: British Guiana, 302,000 pounds; Uruguay, 288,000 pounds; Brazil, 149,000; and Colombia, 64,000 pounds. More than one-half of the United States leaf shipped to these last-named countries comprised flue-cured leaf, and the remainder dark-fired (mostly Kentucky-Tennessee), burley, and Black Fat (to British Guiana only). Available information does not indicate any substantial expansion in South American takings of United States leaf tobacco in the next 2 or 3 years.

#### CANADA

Canada's annual leaf tobacco production in the years immediately preceding the World War was normally between 10 million and 12 million pounds. In the post-war period, however, a remarkable increase has taken place. During the 5-year period 1932-36 Canadian leaf production averaged 47.7 million pounds. In 1937, however, a record crop of 72.1 million pounds was produced, which in turn was surpassed by total leaf-tobacco production in 1938, estimated at 95 million pounds, of which flue-cured leaf accounts for approximately 74 million pounds.

Imports of leaf tobacco into Canada during the 10-year period 1920-29 averaged 17.3 million pounds annually, of which United States leaf accounted ordinarily for about 90 percent. Since 1930, however, when the total from all sources was 17.4 million pounds, Canadian leaf-tobacco imports have declined rapidly and consistently. Imports in 1937 dropped to 2.6 million pounds, of which United States leaf (mostly flue-cured and some fire-cured) accounted for 2.3 million pounds.

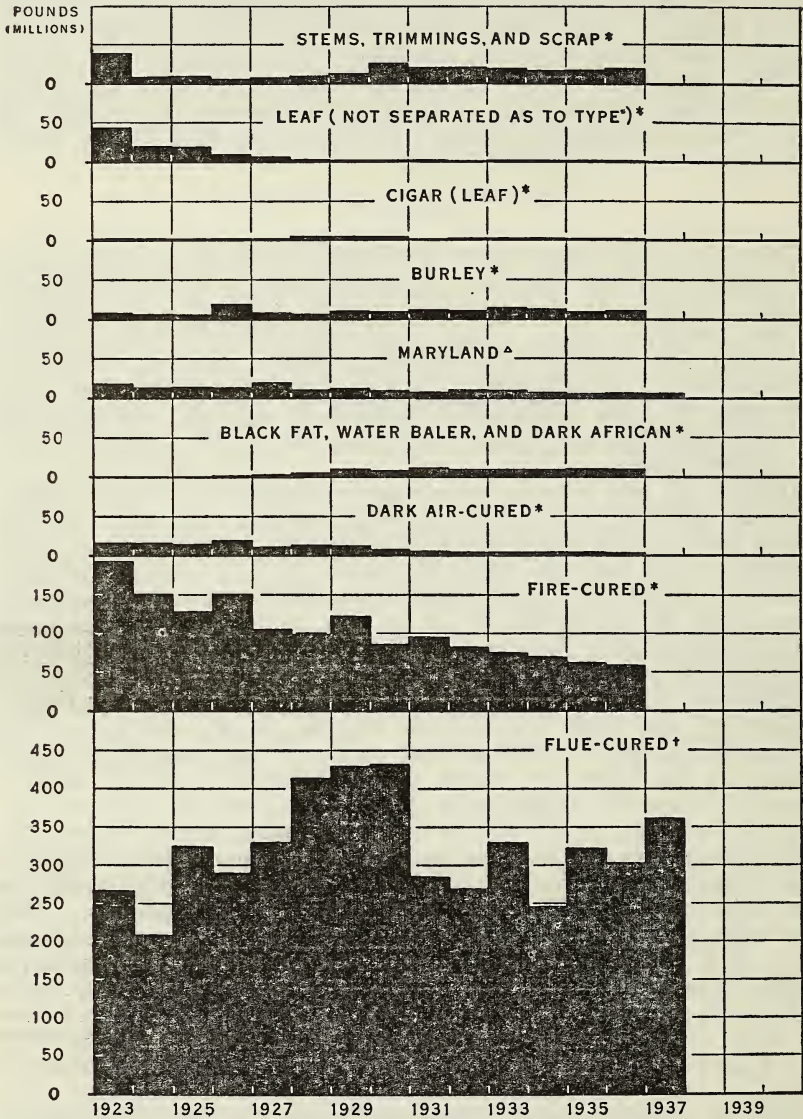
Canadian takings of United States leaf now represent less than 1 percent of our total leaf-tobacco exports to all countries. The long-term outlook for maintaining even this reduced level of leaf exports to the Canadian market does not appear to be favorable if Canada's domestic leaf-tobacco production continues to increase. And of particular significance to our leaf-tobacco export trade is the fact that exports of Canadian leaf to the United Kingdom, where it is accorded tariff preference, totaled 14.5 million pounds during the first 9 months of 1938, compared with 8.8 million pounds during the entire year 1937. The increase was almost entirely of flue-cured leaf. It is anticipated that there will be a much greater surplus for export from the 1938 flue-cured crop than from the 1937 crop, inasmuch as the former crop is larger by almost 20 million pounds.

#### FOREIGN MARKET OUTLOOK BY PRINCIPAL EXPORT TYPES

Having discussed the outstanding tobacco market conditions in the important European, Far Eastern, and other foreign countries, a brief summary by principal export types will be made of the market prospects for American leaf tobacco. Reference is made to figure 3, showing American tobacco exports by types, 1923-37. The statistics on which this chart is based are shown in appendix B.

FIGURE 3

TOBACCO: EXPORTS FROM THE UNITED STATES BY TYPES, 1923-37



\* YEAR BEGINNING OCTOBER

^ YEAR BEGINNING JANUARY FOLLOWING PRODUCTION

† YEAR BEGINNING JULY



## FLUE-CURED

In general the outlook in European countries is that during the next few years the trend of imports of American flue-cured tobacco will be fairly well maintained, possibly increased, over present levels. Individual years will show increases or decreases accordingly as European stocks are low or high, or as production and prices in this country stimulate or discourage foreign orders. Factors which suggest moderate increases are continuing shifts among consumers toward cigarettes, and from oriental tobacco to flue-cured or blended tobacco for cigarette purposes. The trend toward the blended cigarette, noticeable particularly in Scandinavian and Baltic countries, suggests gradual increases in the domestic exports of burley tobacco as well as flue-cured.

The offsetting factors, which may prove of large significance, are the increasing production of flue-cured tobacco in British dominions, the increasing difficulties in effecting sales to some European countries, and the generally unfavorable long-term outlook for United States flue-cured leaf in China, Manchuria, the Japanese Empire, Netherland India, and British India.

## FIRE-CURED

For American fire-cured tobacco and, to a smaller extent, for dark air-cured types, the outlook is for a continued decline in consumption. The two products, chewing tobacco and snuff, made almost exclusively in Europe of dark types, will probably decline further. Substitution of Italian leaf for Kentucky leaf in the manufacture of chewing tobacco in Germany will probably continue. In smoking mixtures the tendency is to shift toward lighter blends containing less fire-cured leaf, and the consumption of smoking mixtures as a whole probably will not increase materially. The exports of manufactured dark smoking tobacco from the Netherlands, Belgium, and, to a small extent, from the United Kingdom, offers a considerable outlet for dark leaf. Although the exports of this product primarily to British India and to Netherland India increased in 1937, they again declined in 1938. In Switzerland and in former Austria, where fire-cured leaf has been used in Virginia-type dark cigars, the outlook is also unfavorable because of the declining demand for these products and the substitution of Italian leaf.

However, should there be improvement in the political and economic situation in Germany and Spain or relaxation of the strenuous efforts toward national self-sufficiency in some of the other countries, a considerable revival in demand might be expected. American fire-cured leaf might then regain much of its former share in the total consumption of this type. The principal factors here involved in the two most important countries, Germany and Spain, are political. Similarly, if it were possible to eliminate or reduce the Empire preference on Nyasaland leaf in the United Kingdom, it is believed that the demand for American fire-cured might be revived to a moderate extent on that market, where at least 10 million pounds of Nyasaland are used annually.

No improvement is anticipated for the dark types in France, and it is doubtful whether a reduction in price would materially affect con-

sumption on that market. In Belgium, as well as in the Netherlands and Denmark, prices play the most important part. Here increased quantities would undoubtedly be used if they were available at lower prices.

#### BURLEY

Burley has never been an important export type, and foreign sales to other than European countries except to Australia, Newfoundland, and Argentina, are relatively insignificant. The statement is frequently made that European manufacturers generally have never learned to handle it and to appreciate its blending qualities. There appears to be some trend, however, toward increased exports of this type, possibly growing out of increasing interest in lighter types of smoking mixtures and American-type blended cigarettes. Though practically no burley leaf is grown in other countries, except in Canada, and no other type has directly comparable characteristics, there are several competitive types such as Java and the better grades of European air-cured leaf and South American leaf which are used, particularly in smoking mixtures. Furthermore, lighter grades of Java have recently been used in American-type blended cigarettes in Belgium and the Netherlands.

Under existing conditions European demand for burley would be expected to remain at practically the present level or to increase slightly. The demand for this type has suffered less from European political conditions primarily because the principal consumer, Portugal, has been able to continue on a normal basis and because of the beneficial effect of its use in blended cigarettes in other countries. Price is of great importance in this type, particularly in Belgium and the Netherlands, and due to the latitude in selection of blends in these countries, it is probable that increased quantities would be used at lower prices.

#### MARYLAND

Maryland tobacco has suffered severely in the European market. Exports to European countries have declined from 10 to 20 million pounds prior to 1930, to 4 to 5 million pounds during the past 3 years. (There are virtually no exports of Maryland leaf to other than European countries.) The greatest decline occurred in France where 4 to 7 million pounds were formerly used as compared with an average of about 0.7 million pounds during the past 4 years. The proportions of Maryland leaf in the French Monopoly's "Maryland" type cigarettes have been greatly reduced, largely as a result of the relatively high prices of Maryland tobacco suitable for high grade cigarettes. A change in the manufacturing policy of the French régime in the use of medium and common grades of Maryland tobacco has in recent years practically eliminated the exports of these grades to France.

European manufacturers generally have complained that hogsheads of Maryland leaf were not true to sample and that a wide variation prevails in the quality of leaf within a hogshead, resulting in the necessity for re-sorting in the factory and considerable loss due to unsuitable leaf and waste.

There is no foreign tobacco similar to Maryland and there are no directly competitive types, but lower grades are replaced by leaf from numerous other sources. Under present conditions the European mar-

ket for Maryland would be expected to continue to decline, with Switzerland taking about one-half of the total exports. The political situation is not of great importance in this type, although the takings of Germany have been reduced from over one-half million pounds prior to 1930 to a fraction only of that quantity during recent years. With stricter grading and packing, and assurance to European consumers that this form of criticism is no longer applicable, it is possible that the consumption of this type could be considerably increased. This is important in view of the fact that no other area in the world has been found to produce leaf comparable to that grown in the five southern Maryland counties.

## POSSIBLE METHODS OF INCREASING EXPORTS

### EXPORT SUBSIDIES

Careful study has been given to the question whether exports of American tobacco could be increased through the use of export subsidies. The conclusion is that there are so many complicating factors involved that a subsidy plan could not be put into operation with reasonable hope of success.

It is clearly apparent in the preceding discussion of marketing conditions abroad that numerous types of tobacco are exported, which encounter widely differing conditions in the various importing countries. For example, exports of certain types of tobacco are decreasing by reason of changes in the popular taste. It is not to be expected that a subsidy would alter the trend of such a change.

A further and very important reason for the decline in takings by certain countries lies in the subordination of wishes of consumers or manufacturers to reasons of national policy in international trade as previously discussed. (See *Governmental Factors*, p. 9.) Germany, for example, finds it expedient not only to restrict imports of tobacco, but in its purchases to favor certain countries with which it has trade agreements or which will accept German goods in payment on a barter basis.

It might be assumed that such countries would be influenced to purchase larger quantities of American tobacco if through subsidies the tobacco reached them at lower costs. But there would yet remain countries, some of them exceedingly important, where the purchasers are amply financed, and the question of price is not of controlling importance. Further, in some countries it is fairly certain that the application of subsidies would result in countervailing duties.

Provision for the application of countervailing duties equal to the amount of the foreign subsidy or grant on imported products exists in a fairly large number of countries.<sup>7</sup> In some countries where a substantial share of total leaf tobacco requirements is supplied by home-grown leaf, mostly of the dark types which have largely displaced former imports of American dark types, it is possible that a subsidy on our fire-cured or dark air-cured leaf would be offset by invoking countervailing duties equal to the amount of the subsidy.

<sup>7</sup> See S. Doc. No. 112, 73d Cong., 2d sess., entitled "Anti-Dumping Legislation and Other Import Regulations in the United States and Foreign Countries," prepared by the Federal Trade Commission. Also special report, *Anti-Dumping Legislation, Countervailing Duties, Import and Foreign Exchange Control, and Tariff Treatment in Selected Foreign Countries*, prepared by the Bureau of Agricultural Economics, June 1937.

A far greater danger than this, however, would apply to subsidized American leaf-tobacco exports to the United Kingdom, our outstanding foreign market for flue-cured leaf. Under subsection 1, section 5, of the Ottawa Agreements Act of 1932, the British Board of Trade is empowered to prohibit the importation into the United Kingdom of any foreign product likely to frustrate in whole or in part, through state action by the country of origin affecting the price of such product, the tariff preference assured like Empire products under the Ottawa agreements. Inasmuch as the tariff preference on Empire leaf is assured under the Ottawa Agreements Act until August 1942, a Government subsidy on American tobacco shipped to the United Kingdom would make action possible whereby the importation of such leaf would be prohibited as long as the subsidy applied.

All of this leads to two general conclusions: First, that subsidies could not be universally applied; and second, that even a selective application, based either on specific types of tobacco or with respect to certain countries, would lead to confusion and unfavorable reactions, and possibly actual loss of trade.<sup>8</sup>

### RECIPROCAL TRADE AGREEMENTS

An effective instrument of commercial policy in relation to export trade in American products is the reciprocal trade agreement program developed under the Trade Agreements Act of June 12, 1934 (renewed in 1937 for an additional 3 years). Before stating the conclusions arrived at as to the efficacy of the trade-agreement program in facilitating exports of American tobacco, the benefits thus far obtained in that regard will be discussed.

Concessions of direct benefit to American tobacco growers and manufacturers have been obtained in 10 of the 20 reciprocal trade agreements thus far concluded with foreign countries. These concessions are in the nature of duty reductions or assurances that existing import duties on American tobacco and on tobacco products, or margins of preference on competing tobacco, will not be increased during the period of the agreements; and in two instances, consist in commitments favoring larger purchases of American leaf.

Eight countries, Cuba, Belgium, the Netherlands, Colombia, France, Guatemala, Czechoslovakia, and the United Kingdom have given concessions on leaf tobacco, while 5 countries, Cuba, Belgium, Colombia, Haiti, and Canada have given concessions on manufactured tobacco. These concessions are summarized as follows:

- (1) Cuba has granted a 20-percent reduction in the import duty and a 20-percent preference on leaf tobacco. The rates of duty are also reduced and a preference of 20 percent granted over other foreign countries on American manufactured tobacco—cigarettes, cigars, smoking and chewing tobacco, and snuff.

<sup>8</sup> Pursuant to sec. 32, Public Act No. 320, 74th Cong., as amended, a program during the fiscal year 1939 has been announced by the United States Department of Agriculture for the diversion into byproducts and the exportation of fire-cured (types 21, 22, 23, and 24) and dark air-cured (types 35 and 36) tobacco under certain conditions. In order to qualify for a benefit payment at the rate of 1 cent per pound on tobacco exported, such tobacco must be of the 1934 crop and pledged as security for loans made to a tobacco cooperative marketing association, tobacco marketing corporation, or other tobacco marketing agency by the Reconstruction Finance Corporation, the Export-Import Bank of Washington, or the Commodity Credit Corporation; and furthermore, such tobacco must be sold for export to Spain and to no other country.

It should be emphasized that this is an exceptional case, as may be noted from all the specified qualifications which tobacco from the 1934 crop must satisfy in order to be eligible for the export benefit payments mentioned.

(2) Belgium has given assurance that the rates of import duty on unstemmed leaf tobacco and cigarettes will not be increased.

(3) The Netherlands has bound the import duty against increase on tobacco of the Maryland, Kentucky, and Virginia types. Netherland India has given a similar commitment on kinds of leaf tobacco.

(4) Colombia has granted a 50-percent reduction in the import duties on leaf tobacco and on cigarettes.

(5) Guatemala has agreed not to increase the existing duty on leaf tobacco.

(6) Haiti has guaranteed not to increase the existing import duty or internal taxes on cigarettes.

(7) France guaranteed that purchases of American leaf by the French tobacco monopoly during the 1936 season would not be less than the equivalent of \$3,200,000 in value or less than 20,500,000 pounds in weight, representing an increase of about 10 percent over the 1935 takings.

(8) Czechoslovakia made a commitment to the effect that the Czechoslovakian tobacco monopoly will endeavor to increase its purchases of American leaf tobacco, especially the cigarette grades.

(9) Canada has reduced the import duty on American cigarettes from \$4.10 per pound plus 25 percent ad valorem to \$3 plus 15 percent ad valorem.

(10) The United Kingdom has given assurance that the existing margin of tariff preference in favor of Empire leaf tobacco will not be increased; and that after August 1942, when the law expires which guarantees the present margin of preference to certain parts of the British Empire, the United Kingdom Government will examine the position as it then stands and the possibility of reducing the margin of preference.

(11) The United Kingdom Government on behalf of Newfoundland has given assurance that no tariff preferences in favor of Empire leaf or Empire manufactured tobacco, including cigarettes, will be introduced in Newfoundland.

(12) The United Kingdom Government, acting in behalf of the the British Colonial Empire, has made the following concessions in separate British colonial dependencies on American unmanufactured tobacco and tobacco products: 19 reductions in the colonial rates of import duty on unmanufactured tobacco, 8 bindings of existing rates of duty against increase, and of these concessions 21 involve parity-with-Empire tariff treatment (abolishment or preclusion of Empire preference). With respect to manufactured tobacco, 13 tariff reductions and 19 bindings of existing rates of colonial import duties were obtained, of which 5 of the concessions involve parity-with-Empire tariff treatment. The effective date of the British Colonial Empire concessions is January 1, 1939, or as soon thereafter as practical.

After a comprehensive investigation and analysis of all the potentially practicable means of furthering the exports of American tobacco, as well as manufactured tobacco products, it is felt that the reciprocal trade-agreement program, and its further extension to countries not

now included therein, affords the most practicable basis for achieving the desired purpose. Moreover, that program, and its further extension, is considered to provide one of the most efficacious methods of checking the declining trend in imports registered in certain countries for particular types of American tobacco.

### BYPRODUCTS USES OF TOBACCO

Aside from the leaf tobacco used in the manufacture of customary tobacco products, considerable quantities of low grade leaf and waste are utilized in the byproducts industry.

#### PRESENT BYPRODUCTS

The tobacco byproducts manufactured at the present time are limited to tobacco extracts, nicotine products, nicotine-free tobacco suitable for fertilizer, and unextracted ground tobacco and factory wastes and dusts adapted for use as nicotine dusts or fertilizers. A small but highly technical industry is established for the manufacture of these products. Tobacco stems and other tobacco wastes such as leaf scrap and dusts from the tobacco manufacturers, low grades of common leaf tobacco purchased upon the open loose-leaf markets, and, in certain areas farmers' barn scrap, furnish the raw material for byproducts manufacture.

The principal tobacco byproduct is nicotine for horticultural and veterinary use. It is supplied as nicotine sulfate, pure nicotine, and in various combinations with oil, mineral, and other carriers.

Tobacco extract or "sauce" is a concentrated water extract of tobacco, possessing a low nicotine content. It is used as a base for flavoring solutions applied to certain types of chewing tobacco popular in northern European countries. Germany has been the most important consumer of American extracts. In recent years the exports<sup>9</sup> of this material have declined rapidly due to competition of extracts of foreign manufacture and decline in the exports of the spinner grades of American fire-cured leaf tobacco upon which the saucing material is principally used.

Finely ground extracted stems and leaf are used in appreciable quantities in the mixed-fertilizer industry of the United States as a conditioner to prevent caking of the mixed chemicals and as a source of potash and nitrogen in the fertilizer formulas.

To a much less extent the extracted material is used as a fertilizer and soil conditioner alone. Also where available factory byproducts such as stems, scrap leaf, and dust are used, without extraction, for fertilizer uses.

Another use of finely ground tobacco is as a dust for insecticidal use as nicotine carriers or as a diluent for other insecticides or fungicides. Recently tobacco dust containing a guaranteed amount of nicotine has been successfully used in horticulture as a spray.

Attempts have been made by the byproducts industry at various times to find other practical uses for tobacco byproducts, such as in the manufacture of lumber substitutes for wallboard materials. The extracted tobacco residues were employed with and without other binding materials. Because of the nature of the fibers of the tobacco

<sup>9</sup> See appendix C for United States exports of tobacco extracts and nicotine sulfate.

plant it was concluded that it was impractical to produce a satisfactory product. Up to the present the only byproducts from tobacco that have found successful application are those within the group of the nicotine compounds, tobacco sauce, horticultural dusts and sprays, and fertilizers.

Recently suggestions have been made that indicate the practicability of isolating other materials and products from tobacco. Nicotinic acid which can be made by treating nicotine with nitric acid is recognized in the medical field in the treatment of pellagra. Tobacco extract has been demonstrated to have the property of coagulating blood, and it is suggested that it may find extended use in medicine and surgery. Malic and citric acids, important in industry, occur in appreciable quantities in tobacco, and methods are being studied for their commercial isolation.

### POSSIBLE EXPANSION

While it is desirable that the products available from the tobacco plant should be as many as possible, it is recognized that extended research programs will be necessary to develop the suggestions already made. Some of the products suggested might be obtained from tobacco as a part of the process of extraction of nicotine.

Nicotine offers the greatest encouragement for expansion of tobacco byproducts usage. The major portion of the United States supply of nicotine is obtained from tobacco factory wastes, such as stems, augmented by supplies obtained from low-grade leaf tobacco in the fire-cured and dark air-cured types. The steadily increasing production of cigarettes in the United States has made available an increasing amount of factory wastes for nicotine extraction, which has weakened the demand for the low-grade tobaccos in the heavy types.

In order to give support to the market structure for dark types of tobacco it is considered necessary to increase the outlet for the low grades so as to prevent their accumulation as surplus stocks, especially in view of the weakened demand throughout the world for these types in tobacco manufacturing. An expansion of the uses of nicotine offers an important and desirable outlet.

Since the establishment of the Agricultural Adjustment Administration in 1933, considerable stimulus has been given to the utilization of nicotine products. In this manner excess stocks of the heavy types of tobacco have been considerably reduced.

### USES OF NICOTINE

Nicotine has long been recognized as an insecticide; its use, however, has been confined to contact sprays and fumigants. In 1915 Mr. Fred De Sellem of Wenatchee, Wash., suggested its use in sprays for the control of the codling moth on the apple. The early De Sellem experiments were not successful because of the rapid volatilization of the nicotine as then used, and its relatively high cost prevented its use beyond the experimental stage. During the past 10 years, however, the successful work on stabilizing the product has opened up a new field for the use of nicotine as indicated by the promising tests against the codling moth.

The increasing infestation of the codling moth in nearly all of the apple-growing areas has required increased amounts of insecticides to be applied to the fruit to keep it fit for salable market grades. The result has been that the orchardist has been forced to apply such heavy coverages of the standard metallic poisons to the fruit that it has become difficult for him to remove the spray residue to such an amount as to pass the poison tolerances of the food-inspection services in the United States and abroad.

Oftentimes the orchardist is required to use strong chemical washes, to remove sufficient residue to meet the food-inspection tolerances, thereby inducing conditions that result in damage to the fruit in storage.

It has been recently demonstrated that nicotine can be used in conjunction with or in place of the metallic poisons and the problem of poisonous residues is lessened or entirely eliminated. The problems arising in storage due to the use of washing solutions are eliminated. A further benefit arising from the use of nicotine in place of the metallic poisons is found in improved tree foliage resulting in larger yields of commercial grades of finely finished fruit.

In 1928 the Tobacco Byproducts and Chemical Corporation began an extended research program with the purpose in view to develop a nicotine insecticide adapted for the control of chewing insects, with particular reference to fruit insects. Since that time there have been developed three important "fixed" nicotine compounds wherein the alkaloid is rendered more or less stable on the sprayed fruit for periods ranging up to 21 days, as compared with only one day or less which was possible with the compounds available at the time the research program was begun.

This company developed in 1929 nicotine tannate, a fixed nicotine compound of the alkaloid and tannic acid. This compound answered most of the requirements of the type of spray sought but it has since been displaced in the fruit industry by other nicotine compounds which appear superior. Entomologists of the United States Department of Agriculture have found nicotine tannate effective in the control of the corn borer on sugar corn where the high acre value of the product allows for the use of the relatively expensive nicotine tannate sprays.

Nicotine in conjunction with various types of mineral oils is an effective insecticide under certain conditions and an extensive series of experiments by industrial, State, and Federal researchers is under way to make such combination a safe insecticide for all conditions.

Nicotine bentonite has been developed within the past 5 years based upon researches of the Department of Agriculture, a number of the State experiment stations and by the Tobacco Byproducts and Chemical Corporation.

Nicotine bentonite used as a poison for chewing insects establishes a decided step forward in insecticide science. Its use is believed to involve no objectionable residue problem as is the case with arsenate of lead, now the most widely used poison in the horticultural field. A further advantage in the use of this material is that it does not damage the foliage of the plants upon which it is employed nor is there any accumulation of poison in the soil. This material has passed the experimental stage and in certain fruit areas it has been adopted in commercial practice.



Another method of applying nicotine in orchard work has only recently come to the fore. It is the development of the work of the Virginia Agricultural Experiment Station and involves the addition of nicotine sulfate in certain scheduled sprays on tree fruits. It incorporates a control for the adult codling moth as well as the control of the larvae. Results to date in various fruit-growing areas indicate widespread success for this method.

The use and application of insecticides is a highly technical and involved science and need not be elaborated here. It is important to note, however, that there have been developed within the past 8 years two uses for nicotine in the horticultural field, namely, as a poison for chewing insects and as a gaseous or vaporized nicotine. These can be properly regarded as new uses, capable of wide expansion. It is estimated that during the growing season of 1938 these two methods consumed in commercial application for the control of the codling moth on the apple about 40,000 pounds of the pure alkaloid. This is significant when it is noted that in 1936 about 500 pounds of the alkaloid were used on the experimental orchard blocks and in 1937 about 4,000 pounds of nicotine alkaloid were used for these purposes.

It is estimated that if the present indicated rate of increase in nicotine usage for the control of the codling moth is maintained 1 million pounds of nicotine alkaloid might be used annually by the apple-growing industry alone within 10 years. Such new demand for nicotine would absorb the available supplies of the low grades in the heavy types of tobacco, and would require very much larger amounts of the low grades of the lighter types such as flue-cured and burley tobaccos than are now being consumed. Such new demands would be in addition to the 12 to 15 million pounds of low-grade leaf tobacco and approximately 120 million pounds of factory wastes now used annually for contact spray purposes.

Another new method of application of nicotine which is of recent origin is the development of gaseous nicotine for use in the control of sucking insects like the aphids, and certain leaf hoppers. Nicotine has long been the preferred material for this work, but it has been used as a spray or in an alkaline dust like lime to free the nicotine. The Department of Agriculture, State experiment stations, and the research staff of one of the manufacturers have been endeavoring to improve the method of such application and to lower its cost to the consumer, believing that a lower consumer cost enlarges the market for the product in direct proportion to any economies effected.

During the past 2 years there has been made available apparatus that successfully volatilizes nicotine and distributes it in gaseous or vapor form to the plants which are attacked. This method is now in commercial application, especially on certain vegetable crops, and promises to substantially enlarge the outlet for the alkaloid. A large part of the gaseous or vaporized nicotine used will merely replace that nicotine now used in the form of conventional nicotine dusts and sprays. It is indicated, however, that a substantial new market may be developed for nicotine in the fumigation of trees. Heretofore it has been difficult to secure proper control with nicotine or other sprays or dusts because of the physical structure of the trees and foliage and the difficulty of securing proper penetration. Consequently the insect pests are now only partially controlled. Present experiments indi-

cate that effective fumigation of trees is possible and a substantially increased demand for the alkaloid will be developed in what is now a limited field due to ineffective means of application. This work is being carried on by the industry with the cooperation of various Federal and State agencies.

Nicotine has assumed a very important place in the veterinary field, especially in the control of certain important poultry and other animal parasites. Most of this development in poultry has occurred during the past 10 years and is based upon the research work of the industry itself. It is estimated that 200,000 pounds of the alkaloid are now used in the poultry industry, all developed within the present decade.

The cost of manufacturing nicotine is difficult to determine since each of the manufacturers operates under secret or patented processes, and for various reasons regards his costs as confidential. Furthermore, the several manufacturers depend upon different sources or types of raw material for their processing and on differing methods of extraction. They also maintain different methods of merchandising. It is obvious, however, that the competitive conditions within the industry during recent years have grown stronger. The industry itself has sought new uses for its products, and with the cooperation of this Department and various State agencies has been able to dispose of most of the alkaloid recovered.

There are many factors aside from the cost of tobacco or tobacco factory wastes that enter into the cost of nicotine. These items include the variations in nicotine content of the various types of tobacco variations in crops from year to year, freight on raw material and finished goods, coal and power, chemicals, moisture and nicotine losses in raw material, labor, containers, and the many other usual items of expense involved in business management.

The lowest consumers' prices for nicotine occurred during 1933 and 1934. At that time the industry benefited by the low prices of tobacco, and a very large tonnage of distressed tobacco that could not be sold in leaf-tobacco channels was absorbed by the byproducts industry. The unusually low cost of raw material was reflected in the sales price current during that period. Tobacco prices increased in 1934 and such increases were naturally reflected in nicotine costs. The costs of other items including labor, coal, chemicals, containers, and freight, however, have since then increased in greater proportion and these increases are more directly reflected in the current costs of nicotine. But it is believed that the keen competition existing among American manufacturers in addition to that offered by foreign manufacturers in the domestic market is reflected in the present market price of nicotine.

In nicotine manufacture the price of the raw material forms a very important part of the cost of the finished product. Any appreciable reduction in the manufacturers' sale price of nicotine would necessarily reflect the price at which the raw material is purchased, unless additional byproducts of value can be obtained. It is believed that the recent market prices paid to farmers for their nicotine trashes, barn wastes, and offal leaf should not be lowered. On the contrary, what is desired is a wider usage for nicotine and the development of other byproducts of tobacco so that the market may be enlarged for such common grades of tobacco. It is evident that where abnormal quantities of low grades of tobacco are offered there is a tendency for the

whole market structure to sag. To avoid such sags it is highly important that the outlet for products of tobacco be considerably enlarged. Nicotine offers the greatest immediate prospect for enlarged usage, especially in new types of application. Other products also offer encouraging possibilities.

#### LABORATORY RESEARCH

The Agricultural Adjustment Act of 1938 (sec. 202) directed the Secretary of Agriculture to establish four regional research laboratories to conduct researches into and to develop new scientific, chemical, and technical uses and new and extended markets and outlets for farm commodities.

Tobacco has been designated as one of the five farm commodities to receive initial research attention in the eastern regional laboratory. The fire-cured and dark air-cured tobaccos are especially involved because of the rapidly declining export demands for these types. The growers of these types have been unable to reduce their production rapidly enough to conform to the declining export demand brought about by foreign competition, trade barriers, and change in consumer preferences.

Because of these and other factors, unsalable surpluses have accumulated. It is desired that researches be begun to the end that expanded usage be secured or new uses be developed for not only the dark types but for all types of tobacco and the byproducts therefrom. The producers of heavy tobacco are not alone in their need for valuable new uses for tobacco. Seasonal conditions often produce crops of such quality that make large portions of them less desirable or unfit for normal leaf-tobacco purposes, and each year a low-grade portion of every crop should be used for byproducts instead of being offered in competition in the regular leaf-tobacco channels. The rapid expansion in many foreign countries of the production of the important flue-cured tobacco may also result in reduced exports of this type. It is possible that a need will arise similar to that now existing in the dark types for new and important outlets other than for smoking and chewing uses. Although the superior quality of the American tobaccos is recognized as the most important factor in retaining our share of the foreign markets, trade barriers erected by certain foreign countries, the stimulation that is being given to an ever-increasing foreign production of similar types, and other factors already discussed in this report, will eventually offer definite limitations to our exports of all types.

There is also a definite opportunity for research to improve the qualities of the cigar tobaccos so that a larger consumption of these types may be reclaimed for the domestic cigar-leaf growers. All of such research studies will of course be coordinated with the work now being carried on.

In connection with the establishment of the regional laboratories, a survey committee was appointed which has made an exhaustive survey of the research work being done with tobacco at the present time throughout the United States by the various Federal bureaus, State experiment stations, industrial and other private agencies. Suggestions have been received from many sources concerning the initial program for tobacco. All of them have been carefully con-

sidered, and a tentative plan of research with tobacco byproducts has been developed. This work will become a part of the eastern regional laboratory program as soon as the facilities are available. Final recommendations on the tobacco work and the estimates of their cost have not yet been completed. A detailed program for tobacco research is being formulated and especial emphasis will be placed upon the wider uses of tobacco byproducts.

APPENDIX A.—*Foreign import duties on United States tobacco in principal importing countries, 1938*

Description	Rates in foreign units	United States currency <sup>1</sup>
<b>Australia:</b> <sup>2</sup>	<i>Per pound</i>	<i>Dollars</i>
Tobacco, unmanufactured, n. e. i.-----	s. d. 10 0	per pound 1.88
Tobacco, unmanufactured, entered to be locally manufactured into tobacco other than fine-cut tobacco suitable for the manufacture of cigarettes—to be paid at the time of removal to the factory:		
1. For the manufacture of tobacco in which only imported tobacco leaf is used; for the manufacture of tobacco containing less than 15 percent by weight of stemmed Australian-grown tobacco leaf (or its equivalent in terms of unstemmed tobacco leaf) to the total stemmed tobacco leaf (or its equivalent in terms of unstemmed leaf) used:		
(a) Unstemmed-----	5 0	.94
(b) Stemmed, or partly stemmed, or in strips-----	5 6	1.03
2. Otherwise:		
(a) Unstemmed-----	3 6	.66
(b) Stemmed, or partly stemmed, or in strips-----	4 0	.75
Tobacco, unmanufactured, entered to be locally manufactured into cigarettes or into fine-cut tobacco suitable for the manufacture of cigarettes—to be paid at the time of removal to the factory:		
1. For the manufacture of cigarettes in which only imported tobacco leaf is used; for the manufacture of cigarettes containing less than 3 percent by weight of stemmed Australian-grown tobacco leaf (or its equivalent in terms of unstemmed tobacco leaf) to the total stemmed tobacco leaf (or its equivalent in terms of unstemmed leaf) used:		
(a) Unstemmed-----	6 7	1.23
(b) Stemmed, or partly stemmed, or in strips-----	7 1	1.33
2. Otherwise:		
(a) Unstemmed-----	5 2	.97
(b) Stemmed, or partly stemmed, or in strips-----	5 8	1.06
Tobacco, unmanufactured, entered to be locally manufactured into cigars—to be paid at the time of removal to the factory:		
(a) Unstemmed-----	2 6	.47
(b) Stemmed, or partly stemmed, or in strips-----	3 0	.56
<b>Belgium:</b>	<i>Francs, per</i>	
Unmanufactured tobacco: <sup>3</sup>	<i>100 kilos</i>	
Stemmed-----	900.00	.14
Unstemmed <sup>4</sup> -----	500.00	.08
<b>British West Africa:</b>	<i>Per pound</i>	
Unmanufactured tobacco:	s. d.	
Gambia-----	1 3	.29
Gold Coast-----	2 3	.53
Nigeria-----	2 2	.51
Sierra Leone-----	1 8	.39
<b>Canada:</b>		
Tobacco, unmanufactured, for excise purposes under conditions of the Excise Act, subject to such regulations as may be prescribed by the Minister: <sup>5</sup>	<i>Cents per</i>	
(a) Of the type commonly known as Turkish: <sup>6</sup>	<i>pound</i>	
(i) Unstemmed-----	40.00	.40
(ii) Stemmed-----	60.00	.60
(b) Not otherwise provided:		
(i) Unstemmed-----	40.00	.40
(ii) Stemmed-----	60.00	.60

<sup>1</sup> Conversions into United States currency made on the basis of average exchange for November 1938.

<sup>2</sup> In addition to the import duty, there is a primage duty of 10 percent ad valorem and sales tax, 5 percent

<sup>3</sup> Excise tax, 1 franc per kilo (1.53 cents per pound), abolished by a law of June 23, 1938.

<sup>4</sup> Rate bound against increase under trade agreement with Belgium, effective May 1, 1935.

<sup>5</sup> Provided that the duty shall be levied on the basis of "Standard leaf tobacco" consisting of 10 percent of water and 90 percent of solid matter. Special excise tax, 3 percent ad valorem. This tax does not apply to raw leaf tobacco when imported by licensed tobacco or cigar manufacturers.

<sup>6</sup> British preferential tariff rate on this type of tobacco, 20 and 30 cents per pound on unstemmed and stemmed, respectively.

## APPENDIX A.—Foreign import duties on United States tobacco in principal importing countries, 1938—Continued

Description	Rates in foreign units	United States currency
China: <sup>7</sup>	<i>Gold units per 100 kilos</i>	<i>Dollars per pound</i>
National Government:		
(a) Value over 175 gold units per 100 kilos (53.98 cents per pound).....	23.00	0.07
(b) Value not over 175 gold units per 100 kilos (53.98 cents per pound).....	6.60	.02
Japanese controlled territory:		
(a) Value over 175 gold units per 100 kilos (53.98 cents per pound).....	23.14	.07
(b) Value over 60 gold units (18.51 cents per pound) but not over 175 gold units per 100 kilos (53.98 cents per pound).....	11.40	.04
(c) Value not over 60 gold units per 100 kilos (18.51 cents per pound).....	4.79	.01
Czechoslovakia:	<i>Crowns, per 100 kilos</i>	
Leaf tobacco, including stems:		
For monopoly.....	Free	Free
Other, by permission only.....	3,750.00	0.58
License tax (monopoly fee).....	40,000.00	6.22
Total <sup>8</sup> .....	43,750.00	6.80
Denmark: Leaves or stalks (not including those seasoned, or in rolls, or stemmed roll tobacco).....	<i>Crowns, per kilo</i> 2.00	.19
France: Leaf tobacco <sup>9</sup> .....	Free	Free
Germany: Tobacco leaves, unmanufactured, or only fermented or smoke-dried <sup>10</sup> .....	<i>Reichsmarks, per 100 kilos</i> 180.00	.33
Ireland:		
Tobacco, unmanufactured:	<i>Per pound</i>	
If stripped or stemmed:	<i>s. d.</i>	
Containing 10 percent or more of moisture.....	10 0½	2.36
Containing less than 10 percent of moisture.....	11 1½	2.62
If unstripped or unstemmed:		
Containing 10 percent or more of moisture.....	10 0	2.35
Containing less than 10 percent of moisture.....	11 1	2.61
Italy <sup>11</sup> .....	Free	Free
Japan.....	( <sup>12</sup> )	( <sup>12</sup> )
Netherlands: <sup>13</sup> Tobacco, in rolls or leaf, and uncut, unrolled stalks.....	<i>Florins, per 100 kilos</i> 1.40	.003
Norway: Tobacco, in the leaf, seasoned and not seasoned, and carrots.....	<i>Crowns, per kilo</i> .15	.43
Poland:		
Tobacco leaves, in bulk, bound up, etc.:	<i>Zlote, per 100 kilos</i>	
(a) Raw, unprepared, dried, even fermented.....	1,800.00	1.53
(b) Sauced, stemmed.....	2,000.00	1.71
Portugal.....	<i>Gold escudos, per kilo</i> 1.40	.66
Spain <sup>14</sup> .....	Free	Free
Sweden <sup>15</sup> .....	Free	Free
Switzerland:		
Tobacco, unmanufactured:	<i>Francs, per 100 kilos</i>	
Without guaranty as to use.....	3,000.00	3.03
With guaranty as to use:		
For the manufacture of cigars:		
Kentucky, dark Virginia, Rio Grande.....	120.00	.12
St. Domingo, Carmen, Blumenau.....	130.00	.13
Java, Brazil.....	190.00	.20
Havana, Sumatra.....	260.00	.26

<sup>7</sup> Plus surtax amounting to 10 percent of the duty.<sup>8</sup> Turnover tax, 3 percent of the value duty and license tax, is also imposed.<sup>9</sup> Imported only by Government monopoly.<sup>10</sup> Import control through exchange permits.<sup>11</sup> Importation reserved to State monopoly.<sup>12</sup> Duty-free, if imported by monopoly; otherwise, 355 percent ad valorem, cost, insurance, and freight basis.<sup>13</sup> Import duty on seed leaf, Maryland, Kentucky, and Virginia types bound under trade agreement with the Netherlands, effective Feb. 1, 1936.<sup>14</sup> Importation of raw tobacco is reserved to the monopoly.<sup>15</sup> State monopoly.

APPENDIX A.—*Foreign import duties on United States tobacco in principal importing countries, 1933—Continued*

Description	Rates in foreign units	United States currency
Switzerland—Continued.		
Tobacco, unmanufactured—Continued.		
With guaranty as to use—Continued.		
For the manufacture of pipe tobacco, chewing tobacco, snuff, or roll tobacco:		
All kinds, except tobacco from China, Japan, and Korea, and Oriental tobaccos.....	Francs, per 100 kilos 270.00	Dollars per pound 0.28
For the manufacture of cigarettes and cigarette tobacco:		
Maryland, Burley, Algerian, Chinese, Japanese, and Korean.....	675.00	.69
Light Virginia.....	675.00	.69
Oriental tobaccos, not separately mentioned.....	675.00	.69
United Kingdom:		
Tobacco, unmanufactured: <sup>16</sup>		
If stripped or stemmed:		
Containing 10 percent or more of moisture.....	Per pound s. d. 9 6½	2.25
Containing less than 10 percent of moisture.....	10 6½	2.48
If unstripped or unstemmed:		
Containing 10 percent or more of moisture.....	9 6	2.24
Containing less than 10 percent of moisture.....	10 6	2.47

<sup>16</sup> Existing margin of preference to Empire countries bound, under trade agreement with the United Kingdom, effective Jan. 1, 1939. Under the Ottawa Agreements Act, 1932, Empire leaf tobacco was assured a margin of preference over foreign leaf of 2s.0.5d. per pound until August 1942.

Compiled from British Board of Trade Journal, official tariff publications of United Kingdom, Australia, Canada, China, and Germany, and information furnished by the Division of Foreign Tariffs, United States Bureau of Foreign and Domestic Commerce.

APPENDIX B.—*United States exports of tobacco to principal importing countries, by types, average 1927-36, annual 1933-37 <sup>1</sup>*

(In thousands of pounds)

## FLUE-CURED, TYPES 11-14

Country to which exported	10-year average 1927-36	1933	1934	1935	1936 <sup>2</sup>	1937 <sup>2</sup>
United Kingdom.....	168,126	170,507	152,389	226,631	170,478	237,018
China <sup>3</sup> .....	80,936	87,029	28,976	24,039	43,096	40,162
Australia.....	16,519	10,841	14,818	18,120	19,407	18,014
Germany.....	7,759	7,838	1,102	6,619	2,726	4,641
Netherlands.....	7,843	11,548	3,604	7,107	9,017	7,928
Japan.....	9,072	7,753	9,370	6,702	9,909	1,718
Canada.....	9,534	7,949	7,817	4,143	3,748	6,679
British India.....	3,206	2,236	1,659	2,299	2,901	2,968
Belgium.....	3,063	3,209	1,878	2,365	4,809	5,557
Other countries.....	30,031	21,420	22,861	24,767	36,549	40,234
Total.....	336,089	330,330	244,474	322,792	302,640	361,919

## VIRGINIA FIRE-CURED, TYPE 21

Country to which exported	10-year average 1927-36	1933	1934	1935	1936 <sup>2</sup>	1937 <sup>2</sup>
United Kingdom.....	1,533	1,143	1,620	1,382	1,603	1,657
Australia.....	629	359	42	60	649	217
Germany.....	1,873	1,479	1,293	1,213	993	962
Netherlands.....	1,112	1,314	445	297	315	227
China <sup>3</sup> .....	66	10	125	6	6	0
Norway.....	1,778	1,812	1,539	1,870	2,090	1,667
Canada.....	136	43	114	176	101	37
Sweden.....	967	1,805	1,169	1,537	1,161	548
Denmark.....	255	505	250	150	75	290
Belgium.....	1,114	1,030	906	121	425	129
Portugal.....	379	382	600	258	267	462
France.....	335	0	56	20	34	46
Other countries.....	3,663	2,078	2,237	2,387	1,773	1,511
Total.....	13,890	11,960	10,281	9,896	9,492	7,751

<sup>1</sup> This table has been prepared on a crop-year basis as follows: Flue-cured, July-June; Maryland, beginning Jan. 1 of year following production (i. e., 5,321,000 pounds are exports beginning January 1937 and are of the 1936 crop); other types, October-September. These figures do not include a small amount of several types shipped to Puerto Rico; no shipments of leaf tobacco were made to Alaska or Hawaii.

<sup>2</sup> Preliminary.

<sup>3</sup> Includes Hong Kong and Kwantung.

## APPENDIX B.—United States exports of tobacco to principal importing countries, by types, average 1927-36, annual 1933-37—Continued

[In thousands of pounds]

## KENTUCKY AND TENNESSEE FIRE-CURED, TYPES 22, 23, AND 24

Country to which exported	10-year average 1927-36	1933	1934	1935	1936	1937
France.....	21,337	20,267	17,515	18,915	18,986	18,710
Spain.....	6,961	5,416	12,222	7,844	0	0
Belgium.....	6,992	10,699	5,502	4,606	6,587	3,414
Italy.....	1,307	922	574	101	780	635
Netherlands.....	6,221	3,122	2,114	2,296	6,227	6,721
Germany.....	6,938	6,314	7,015	3,570	2,272	2,035
United Kingdom.....	4,804	2,174	3,470	2,842	3,278	2,516
Argentina.....	1,273	535	141	85	124	91
Switzerland.....	1,743	3,539	1,548	1,520	2,176	1,994
Other countries.....	14,436	10,048	10,164	11,087	9,963	10,804
Total.....	72,012	63,036	60,265	52,866	50,393	46,980

## BURLEY, TYPE 31

Belgium.....	3,306	5,012	3,554	2,293	2,928	2,089
Portugal.....	1,941	2,497	2,659	2,111	2,021	2,815
United Kingdom.....	338	207	159	219	182	406
Netherlands.....	736	1,927	1,165	586	676	1,066
Germany.....	416	478	550	399	426	422
Newfoundland and Labrador.....	266	273	282	265	390	419
Australia.....	487	275	521	314	1,289	469
Other countries.....	2,418	3,274	3,140	2,741	3,275	3,403
Total.....	9,908	13,943	12,030	8,928	11,187	11,089

## MARYLAND, TYPE 32 (INCLUDING EASTERN OHIO)

France.....	3,298	2,066	162	556	880	746
Netherlands.....	2,423	2,763	3,267	1,623	2,434	2,030
Germany.....	392	608	280	398	243	78
Belgium.....	789	1,270	894	161	488	774
Italy.....	253	143	109	85	0	2
Switzerland.....	1,552	1,899	1,684	1,174	1,067	1,290
Other countries.....	1,001	437	707	693	988	401
Total.....	9,708	9,186	7,103	4,690	6,100	5,321

## ONE SUCKER, TYPE 35

Belgium.....	565	593	556	511	305	90
British West Africa <sup>4</sup> .....	660	135	44	65	37	1
French Africa <sup>5</sup> .....	183	69	131	105	25	31
United Kingdom.....	19	0	0	8	0	15
Other countries.....	249	238	390	147	91	80
Total.....	1,676	1,035	1,121	836	458	217

## GREEN RIVER, TYPE 36

United Kingdom.....	2,617	873	1,901	1,627	1,473	2,892
Netherlands.....	76	86	0	172	11	0
Belgium.....	770	892	1,032	1,510	506	494
Ireland.....	307	72	169	215	82	171
British West Africa <sup>4</sup> .....	360	201	93	63	39	31
Other countries.....	956	263	231	123	61	74
Total.....	5,086	2,387	3,426	3,710	2,172	3,662

<sup>4</sup> Includes Gold Coast, Nigeria, and other British West Africa.<sup>5</sup> Exclusive of Algeria, Tunisia, and Madagascar.

## APPENDIX B.—United States exports of tobacco to principal importing countries, by types, average 1927-36, annual 1933-37—Continued

[In thousands of pounds]

## CIGAR LEAF, TYPES 41-62

Country to which exported	10-year average 1927-36	1933	1934	1935	1936	1937
Netherlands.....	152	304	175	62	63	111
Canada.....	180	168	81	106	37	111
Philippine Islands.....	344	577	370	459	486	533
United Kingdom.....	74	66	49	38	129	437
France.....	1,004	3	0	0	0	0
Other countries.....	161	365	542	84	15	84
Total.....	1,915	1,483	1,217	749	730	1,276

BLACK FAT, WATER BALER, AND DARK AFRICAN <sup>6</sup>

British West Africa <sup>4</sup> .....	4,023	4,089	5,112	5,185	5,156	3,849
French Africa <sup>5</sup> .....	2,140	2,104	2,694	2,740	2,592	2,472
British Guiana.....	146	169	52	72	102	151
Spanish Africa <sup>7</sup> .....	217	370	284	294	46	141
Portuguese Africa <sup>8</sup> .....	253	430	273	392	346	351
Germany.....	227	368	268	389	169	41
Other countries.....	780	775	997	995	1,101	832
Total.....	7,786	8,305	9,680	10,067	9,512	7,837

OTHER <sup>9</sup>

China <sup>3</sup> .....	5	1	0	0	1	0
Netherlands.....	99	6	0	1	0	3
Germany.....	63	0	7	0	0	0
Belgium.....	34	1	0	1	0	1
United Kingdom.....	85	36	55	111	92	84
Canada.....	203	6	8	13	34	27
Other countries.....	353	9	6	11	11	27
Total.....	842	59	76	137	138	142

## STEMS, TRIMMINGS, AND SCRAP

Netherlands.....	307	468	50	15	15	23
Germany.....	3,336	6,878	2,762	3,036	83	1,192
Belgium.....	565	1,639	535	31	94	142
Sweden.....	1,325	640	699	1,022	1,052	1,059
China <sup>3</sup> .....	9,020	5,985	9,505	9,980	16,190	11,812
Other countries.....	2,423	2,972	2,695	3,407	3,115	532
Total.....	16,976	18,582	16,246	17,491	20,549	14,760

<sup>3</sup> Includes Hong Kong and Kwantung.<sup>4</sup> Includes Gold Coast, Nigeria, and other British West Africa.<sup>5</sup> Exclusive of Algeria, Tunisia, and Madagascar.<sup>6</sup> Black Fat, Water Baler, and Dark African are composed principally of fire-cured and One Sucker tobacco, which have been treated with oils and greases, packed in boxes, bales, and tierces, and subjected to heavy pressure. Approximate percentages are two-thirds One Sucker and one-third fire-cured. In some cases a small amount of flue-cured might be substituted for that portion of one of the other types.<sup>7</sup> Includes Canary Islands.<sup>8</sup> Exclusive of Mozambique.<sup>9</sup> Prior to Jan. 1, 1929, includes a part of exports of several types not reported separately; beginning Jan. 1, 1929, Perique only.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.



United States exports of all types of tobacco to principal importing countries, average 1927-36, annual 1933-37<sup>1</sup>

[In thousands of pounds]

Country to which exported	Calendar year					
	Average 1927-36	1933	1934	1935	1936	1937 <sup>2</sup>
United Kingdom.....	182,483	172,869	180,022	216,194	206,550	203,326
France.....	30,388	24,695	21,935	19,136	19,968	22,615
Germany.....	19,086	13,803	12,703	14,862	7,705	8,239
Netherlands.....	19,106	17,268	16,820	10,747	15,693	17,254
Italy.....	2,358	1,660	2,142	843	324	1,270
Belgium.....	17,765	20,867	23,624	9,627	12,435	17,927
Spain.....	11,077	15,871	13,712	6,400	6,576	18
Scandinavia.....	12,240	15,229	12,068	11,889	17,813	18,671
Switzerland.....	3,604	5,250	4,118	2,514	2,925	4,394
Other Europe.....	15,320	9,550	15,959	15,533	16,753	17,179
Total.....	130,944	124,193	123,081	91,551	100,192	107,567
China <sup>3</sup> .....	82,589	71,421	56,891	18,678	33,988	39,251
Japan.....	9,151	6,191	9,405	7,034	9,689	6,869
Other Asia.....	14,008	11,428	7,884	5,361	8,702	14,286
Total.....	105,748	89,040	74,180	31,073	52,379	60,406
Australia.....	17,571	6,710	14,607	15,280	20,890	20,685
British Africa.....	7,517	5,692	5,400	6,957	6,616	6,299
Other Africa.....	8,549	6,385	6,209	7,819	8,771	6,078
South America.....	2,908	2,114	2,175	1,796	1,869	3,231
Canada.....	10,924	8,771	8,380	5,670	4,448	4,088
Other countries.....	4,963	4,644	4,929	4,842	5,095	6,079
Total.....	52,492	34,316	41,700	42,364	47,689	46,460
Grand total.....	471,667	420,418	418,983	381,182	406,810	417,759

<sup>1</sup> Stems, trimmings, and scrap not included.

<sup>2</sup> Preliminary.

<sup>3</sup> Includes Hong Kong and Kwantung.

Compiled from Foreign Commerce and Navigation of the United States.

APPENDIX C.—United States exports of tobacco extracts, by countries, for specified years

Country to which exported	Calendar year						
	1929	1931	1933	1935	1936	1937	1938
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Belgium.....	3,744	590	648	629	28,212	0	1,852
Denmark.....	1,431	3,687	0	1,921	1,277	3,107	1,856
Germany.....	1,756,513	1,098,306	1,085,351	1,005,065	1,377,480	1,406,584	783,486
Netherlands.....	142,008	102,620	86,034	90,963	75,127	68,901	72,309
Norway.....	45,950	29,707	34,468	35,131	29,298	33,290	26,584
Sweden.....	6,550	0	0	0	5,686	5,765	5,500
United Kingdom.....	8,240	52	28,000	0	0	0	357
Canada.....	22,586	34,037	36,782	41,899	49,804	37,498	1,208
Cuba.....	0	40	0	7,470	273	5,888	0
Haiti, Republic of.....	26,084	1,217	0	0	0	360	0
Colombia.....	702	703	320	21,200	0	15	1,024
Uruguay.....	0	0	5,843	4,529	4,492	915	0
China.....	0	324	600	0	0	1,120	0
Japan.....	10,614	0	0	0	0	0	475
New Zealand.....	8,336	16,160	0	0	3,520	0	0
Other countries.....	6,642	6,976	13,686	7,881	15,652	18,252	4,732
Total.....	2,039,400	1,294,419	1,291,732	1,216,688	1,590,821	1,581,695	849,383
Value.....	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Value per pound.....	348,810	218,944	194,587	194,596	257,036	255,982	140,636
	.1710	.1691	.1506	.1599	.1616	.1618	.1656

## United States exports of nicotine sulphate, by countries, for specified years

Country to which exported	Calendar year						
	1929	1931	1933	1935	1936	1937	1938
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Belgium.....	36,480	0	0	0	4,250	0	0
France.....	9,888	20,555	6,701	0	656	11,000	0
Germany.....	2,817	35,148	3,633	0	24,243	0	20,440
Norway.....	2,047	2,940	15,829	10,851	15,090	10,090	11,328
United Kingdom.....	6,387	0	6,000	7,000	1,888	0	2,000
Canada.....	52,919	84,664	29,454	22,887	34,114	56,270	108,303
Mexico.....	7,481	1,455	16,985	8,493	6,514	10,589	9,567
Cuba.....	3,611	4,719	450	5,958	5,516	1,200	9,702
Argentina.....	2,500	0	3,000	9,195	9,410	14,525	11,500
Brazil.....	2,700	0	0	3,902	4,910	5,088	0
Peru.....	2,400	0	0	705	0	200	500
Uruguay.....	4,000	985	0	0	1,000	1,450	0
China.....	3,000	4,210	30	10	15,000	190	0
Japan.....	66,472	56,296	10,288	186,580	261,746	266,657	201,923
Australia.....	34,641	17,902	46,375	53,295	88,453	94,836	90,631
New Zealand.....	5,272	17,237	12,154	21,707	24,936	39,567	29,877
Egypt.....	4,500	0	2,850	17,221	38,143	0	0
Union of South Africa.....	0	1,035	879	4,837	2,672	1,934	1,681
Other countries.....	4,280	1,246	855	16,476	2,487	3,863	3,564
Total.....	251,395	248,392	155,483	369,117	541,028	517,439	501,016
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Value.....	217,622	203,260	89,105	173,802	272,440	317,317	303,518
Value per pound.....	.8657	.8183	.5731	.4709	.5036	.6132	.6053

Compiled from Foreign Commerce and Navigation of the United States and official records of the Bureau of Foreign and Domestic Commerce.